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for better sunfastness

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The Senefelder Company, Inc.

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Samson (Vulcanized Oil) and Litho-Print (Rubber) Offset Rollers, Bingham co-operates with American printers in producing offset printing of outstanding quality at minimum cost.

The new, improved Samson, rapidly becoming famous among fine-quality offset printers, has as its most noteworthy feature the smoothest, yet toughest surface available in Vulcanized Oil rollers; its performance has set new standards in the offset world.

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And — the sixteen modern Bingham plants, strategically located, insure maximum convenience and economy for our customers. Our nearest representative, backed by Bingham's 94 years of roller-making experience, will be glad to assist you with your offset roller problems.

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SENEFELDER

LITHOGRAPHIC SUPPLIES

Everything to make the job easier





Each month we will briefly describe an outstanding item in the Senefelder group of supplies for the lithographer.

KALININ DRIER

Good bronze jobs have their ink and bronze powder adhere firmly and cleanly onto the paper. Ordinary paste or liquid driers generally used in lithographic inks are apt to cause crystallization in the ink and tackiness on the paper. Powdering the sheets, a makeshift remedy, is expensive in application and unsatisfactory in results. It impairs the brilliancy of the color and the life of the ink. Kalinin Drier, a new rapid paste drier, added in small doses to the ink overcomes all of these troubles.

Kalinin Drier is especially prepared for eliminating the detrimental effects of crystallization and tackiness in lithographic inks. It has exceptional drying properties; it remains neutral on stone, zinc or copper plates and does not change the consistency or the shade of the ink.

not change the consistency or the shade of the ink.

Kalinin forms a durable binder between paper, ink and bronze powder; it dries perfectly smooth without leaving any tack behind and makes possible the printing of heavy brilliant solids even on poorly sized papers without rubbing off. Kalinin eliminates the glare and disharmony of color on super coated papers and lends a tranquil appearance of water color to the ink. Kalinin rectifies the detrimental effects of crystallization in inks caused by certain base colors which do not penetrate sufficiently into the paper and which prevent subsequent colors from drying.

Kalinin eliminates the sticking together of sheets with-

Kalinin eliminates the sticking together of sheets with-out powdering or slip sheeting; it does not stick to the rollers in spite of its rapid drying properties. Kalinin is economical and indispensable in lithographing. Kalinin is packed in one pound cans at 60 cents per lb.; larger cans are propor-tionally lower in price.

Directions for mixing the exact proportions of Kalinin Drier to the various kinds of ink for use on different kinds of paper and for various classes of work are contained in our booklet No. 99, which is forwarded with every shipment of Kalinin Drier.

Absorbent Cotton Acids, Lithe Acid Brushes Alum Powder Aluminum Plates Antifin Rubber Preserver Asphaltum Liquid Asphaltum Powder Berlin Poper Brenze Powders Bronzing Pads Carberundum Powder Caustic Sode Cellulose Cleaning Paper

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MODERN LITHOGRAPHY

LITHOGRAPHED IN THE INTERESTS OF LITHOGRAPHERS EVERYWHERE



THE COVER

The Greenbrier, White Sulphur
Springs, scene of the Lithographers National Association
Convention, May 27-30.

May, 1941 Volume 9 No. 5

Page

23

SOME ONE SAID RECENTLY THAT when the history of this particular era came to be written, that so far as business is concerned the greatest evolution will have taken place in advertising practice. He said that before the national emergency was over and done with the technique of advertising as it is known today will have changed so radically that scarcely any of the early characteristics and practices will have been retained. The thoughtful person has undoubtedly noticed that change taking place every day, but no one has as yet ventured to say what the ultimate end will be, or even where the trend is heading. It will be interesting; therefore, to hear what the President of the American Marketing Association has to say on the sub-ject down at the LNA meeting at White Sulphur Springs this month. (Page 24)

THAT MUCH-TALKED OF SUBSTItute for zinc and aluminum litho plates, will it be developed this year? Will it ever be? What are the possibilities? (Page 27)

The fact that less than 8 per cent of the employee publications (there are more than 800) now being published in the U. S. are lithographed should present a challenge to the lithographer. What are the characteristics of this particular market, and what are the problems of the employee publications editor? (Page 31)

New Problems Occupy Lithographers..... Photo-Litho Review . . . 27 By J. S. Mertle Employee Publications..... By Robert F. Stone Contrast With Graded Screens..... 34 By Elbert M. Ludlam Auxiliaries for the Process Camera..... Offset Paper at Work. By William Bond Wheelwright Offset Plate-making... 42 By Don Nicholson Desensitizing Litho Plates..... 43 By Frank Wood Technical News and Literature..... By Kenneth W. Martin New Equipment and Bulletins...... 59 . Lithographic Abstracts..... Where-to-Buy-It.....

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Tale Ends....

WHAT YOU WILL FIND IN THIS ISSUE

Editorials....

MODERN LITHOGRAPHY Reg. U. S. Pas. Office

GRANT A. DORLAND, President; IRA P. MACNAIR, Vice-President; WAYNE E. DORLAND, Secretary-Treasurer. RICHARD ROLEY, Editor. Published monthly on the 15th by The Photo-Lithographer, Inc., Publication Office, 3201 Arch St., Philadelphia, Pa. Advertising and Editorial Office, 254 W. 31st St., New York, N. Y. Advertising Rates: Advertising rates made known on application. Closing date for copy—20th of the month previous to date of issue. Subscription Rates: \$3.00 per year in the United States, \$4.00 per year in Canada. Single copies, 30 cents. Entered as second class matter at the Post Office at Philadelphia, Pa., under the Act of March 3, 1879.



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CONVENTION EDITION

White Sulphur Springs, W. Va., May 27-30

ON EVERY LITHOGRAPHER'S

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Challenge of al Those los only materials ain and her out in the war aga sion. Nazis boa

ilenge of th -boats. Some United States merchant and urged that America to Britain by the U That proposal, it was mean the end of ligerent status.

The Administration has long pondered the issue, the gravest sine

A. Lindbergh at a New York rally of | the \$12,001,000,000 g the America First Committee, a group formed last September to oppose

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volvement in the war. Colonel T ergh not only declared as beaten but said, "I he the conclusion that

-- PHICH NY with defeatis. asers. Thus did the debate be rventionists and isolationists mod climax. Never before, save in 1917,

he issue of foreign policy been so joined or so directly stated. To bservers it seemed the United st week had reached the crossat the near future might bring on the direction in which the vould next move.

Taxing for Defense

By order of MOL (Majority of the Lithographers) the ROBPORT BLANKET for offset presses has been placed on all lithographers' Personal Priorities List 100 per In effect, the order means that beginning immediately 100 per cent of all ROBcent, it was learned today from usually reliable sources.

PORT BLANKETS now being produced are preferred and, therefore, in great demand by the entire lithographic industry. The superior qualities of the ROBPORT BLANKET with high grade fabric, its strength, its resistance to test fracture, took BLANKET—its high grade fabric, its strength, its resistance to tear, fracture, tackiness, embossing, blistering, engraving, and its absolute uniformity of thickness, ROBPORT officials said they were pleased to hear of the order and promised are responsible, it was said, for the order issued by MOL.

100 per cent cooperation.

ne snort- ... ar strategy as a whole.

ficial family-Secretary of State Cor-

dell Hull and Secretary of the Navy

Frank Knoy-spoke to the nation in

Two members of the President's of-

cal year 1941-42. During the World War the government financed twothirds of the conflict's cost, not including loans to the Allies, by borrowing and only one-third by taxes. For the current defense program the Adminisancy could only be d taxes or imposi ek, fc

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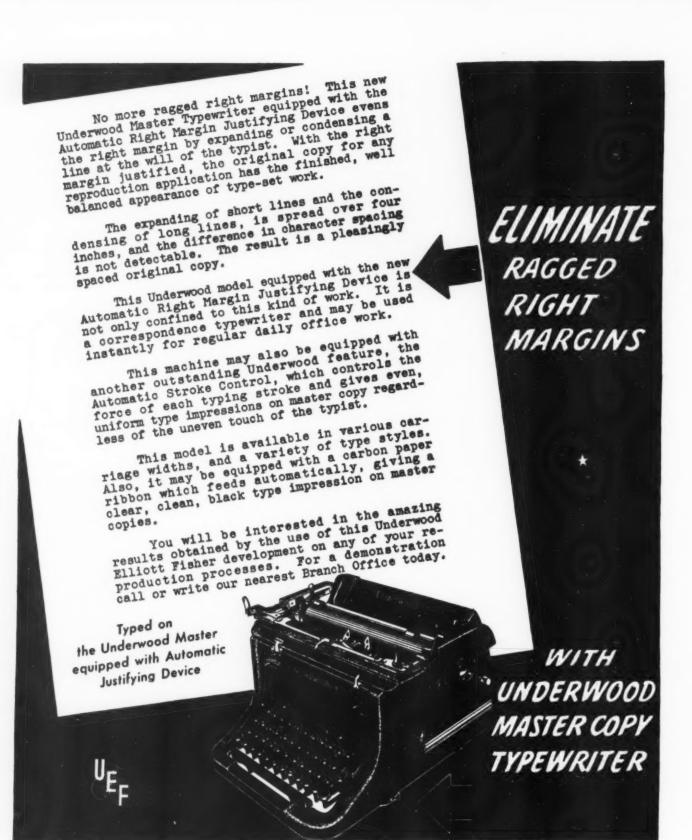
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TERE is something that sales HEKE is sometimes asking managers have been asking for! The experience of America's most successful sales producers has been boiled down and published by Dartnell Corporation, Chicago, in seven handy pocket size brevity books. A real working tool which more than three hundred sales managers have helped to forge. "Strategy In Selling" has been created to help your salesmen close more business, get better interviews, handle price objections, make more calls. These seven pocket size manuals are the most practical and helpful sales training aids ever made available for the average sales organization.

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How to Attract People to You

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Strategics of the Presentation Making the Buyer Want It Presenting Your Proposition The Different Kinds of Buyers Proving Your Case Making Your Story Interesting

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The Five Kinds of Objections
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The Bee-Line Method of Working
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MODERN LITHOGRAPHY 254 West 31st St., New York, N. Y. Gentlemen:

Please send me sets of Strategy in Selling, by J. C. Aspley. Check (or money order) inclosed at \$6.00 each set.

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As the Lithographers National Association meets

for its 36th Annual Convention, the Fuchs & Lang Manufacturing Company takes this opportunity to salute an organization whose efforts have done so much for the advancement and THE WEITER OF TH the welfare of the lithographic industry.

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TO ALL LITHOGRAPHERS

The 36th Annual Convention of the Lithographers National Association Inc., will be held at The Greenbrier, White Sulphur Springs, West Virginia, May 27, 28, 29 and 30, 1941.

As in the past, the three morning sessions (Tuesday, Wednesday and Thursday) are open to all, and lithographers—whether members of the Association or not—are urged to attend. Welcome is also extended to our friends in the paper, ink, machinery and supply trades, and to members of the press.

The Program

THE WORLD TODAY World conditions have changed completely since our last Convention. There are problems today which all of us must face and find solutions for, as an industry and as individuals. These problems—and their solutions—affect each lithographer in his everyday activities within his plant. The Selective Service Law . . . Priorities and the workings of the Office of Production Management . . . Defense requirements made of lithographic machinery manufacturers and upon other sections of the supply trades. . . . Facts that are known may cast some light upon facts yet to be realized. These facts shall be the subjects of discussion at the first open session of the Convention on Tuesday morning, 10:00 A.M. Speakers will be those who are close to these facts at the present time and who can speak authoritatively.



LITHOGRAPHIC PROGRESS A panel discussion on Wednesday morning of the "How, Why and Wherefore" of lithographic progress of the past dozen or fifteen years—a non-technical presentation of outstanding technological advances in techniques, machinery, paper, ink, etc. Experts—each in his own field—will present a rapid moving discussion followed by a question-and-answer period in which lithographers and convention guests will participate.

An opportunity for heads of lithographic establishments who may not themselves be technical men, to review lithographic progress and evaluate current standard practices in the black-and-white and color fields.



THE MARKETS — TODAY AND TOMORROW? One of the most important questions lithographers are asking today is what probable effect the defense situation will have upon the advertising industry and, more particularly, upon advertising volume. There are other questions in that category, such as: what defenses are lithographers planning for the onslaughts on existing markets which are inevitable in a war-time economy? What methods of attack should lithographers be preparing? The keystone of business success is Sales; the sides of the arch which support that keystone—and which it supports—are Selling and Buying. . . . Both aspects, considered in the light of present day factors both at home and abroad, will be presented by our speakers on the Thursday morning session.



TO SHED A LITTLE LIGHT will be the theme of our Convention this year. The social aspects of these annual gatherings of lithographers and their guests will have their due place in the sun, culminating in the Annual Dinner on Thursday evening, and the Golf Tournament on Friday, May 30th. But emphasis will be, by popular choice, upon the business side of the Convention and the particular problems facing lithographers at the present time.

We look forward to greeting you at The Greenbrier, White Sulphur Springs, West Virginia, May 27-30, 1941.

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CONOMY has long been a feather in the lithographer's cap... many have been the savings passed along to printing buyers.

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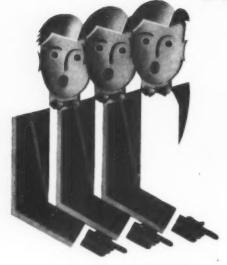
Fast service by airmail or other carriers to all parts of the country.

*A limited number of copies of "The Nelson Way" (a detailed presentation of this completely modern Lithographic Preparation Service) are available to interested lithographers.

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M-H Universal Process Machine — This is a small photo-composing machine for making multiple negatives and positives (singly or in combination) and bromide prints, either direct or by contact; for making combination proof plates and production press plates, and for scribing lines on glass or film negatives. Notch-bars and micrometer adjusting screws assure absolute accuracy in all operations. Made in two sizes.

M-H Overhead Motor-Focusing Camera — A specially designed all-metal camera, embodying many new and exclusive features. Scientifically constructed to hold the copy, lens and the sensitized surface in their correct relation to each other. Convenient and

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Vertical Plate Coating Machines and M-D Offset Presses.

Active Patent Numbers

1,425,526	1,715,712	1,914,126
1,431,664	1,727,600	1,914,127
1,452,077	1,736,914	1,923,671
1,452,078	1,780,191	1,933,059
1,468,022	1,780,677	1,952,173
1,482,562	1,780,678	1,957,433
1,496,638	1,795,653	1,978,493
1,510,007	1,809,274	1,984,217
1,513,321	1,828,739	2,000,390
1,521,633	1,832,026	2,021,485
1,556,845	1,839,230	2,021,959
1,576,511	1,846,972	2,115,357
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1,675,493	1,860,389	2,139,956
1,682,845	1,865,262	2,150,974
1,702,232	1,870,008	2,210,537
1,703,449	1,912,547	2,227,935
	Re16,567	

FOLDERS

DESCRIBING THESE EQUIPMENTS
SENT ON REQUEST

quick-operating on wet or dry plates, film or paper. Special features and attachments include overhead method of suspension; motor-movement of lensboard and copyboard for focusing; micrometer adjustments; darkroom operation and control; special sliding screen carriage and housing; vacuum back; diffuser; oscillating, tilting or horizontal copyboards, etc. Made in four sizes.

M-H Vertical Plate-Coating Machine — For distributing and drying coating solution on plates intended for use on offset and gravure presses. In comparison to horizontal machines it saves time, uses less solution and makes better plates. Standard model in five sizes; Junior model in one size.

M-D Simplex Photo-Composing Machine — For the accurate placement of images on offset or lithographic press plates. Simple in operation and designed for multicolor reproduction or simple black-and-white work and step-and-repeat work. Made in two horizontal models.

M-D All-Metal Precision Camera — For the production of line and halftone negatives, with provision for the addition of special units for color and process work. Handles film or paper negatives, dry or wet plates. Made in 24x24" and 31x31" sizes.

M-D Offset Color Proving Presses — Produce proofs in perfect register from either zinc or aluminum plates or stones. Bed plates adjustable. Hand and electric models available in three different sizes.

The Word "MONOTYPE" is registered in the U. S. Patent Office as a trade-mark to be applied to the machines, accessories, parts and supplies manufactured by Lanston Monotype Machine Company, Philadelphia, Pennsylvania, U. S. A.

LANSTON MONOTYPE MACHINE COMPANY

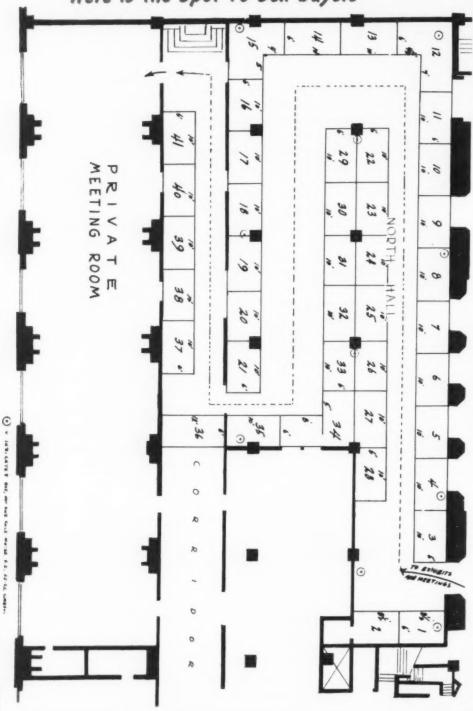
Monotype Building, Twenty-fourth and Locust Streets, Philadelphia, Pennsylvania

Set in Monotype Baskerville, No. 353, Alternate Gothic, No. 51, Hess Neobold, No. 363 and Twentieth Century Family

CONVENTION

netherlands plaza hotel · cincinnati, ohio · September 18, 19, 20

If You Have a Medium, Product or Service for Advertising Here is the Spot To Sell Buyers



All convention visitors must pass through exhibits

NATIONAL ASSN. OF PHOTO-LITHOGRAPHERS

1776 Broadway

New York, N. Y.

Each D For ov has ke needs

oday comple offered where

ER

W. E. Soderstrom, Executive Secretary National Assn. of Photo-Lithographers 1776 Broadway, New York, N. Y.

Dear Mr. Soderstrom:

Z Z

NINTH ANNUAL

Please reserve exhibit space for me at the NAPL Convention in Cincinnati, Sept. 18-20.

Name

Company

Address



Sinclair and Valentine Co.

MAIN OFFICE AND FACTORY: 611 WEST 129th STREET, NEW YORK, N. Y.

Albany Baltimore

Boston Charlotte Cleveland Dallas Havana Jacksonville Los Angeles Manila Mismi Nashville New Haven Philadelphia San Francisco

WE DID NOT BUILD A BETTER MOUSE TRAP

. . . but we DID build a better roller—beginning in 1865—and thus a large part of the printing world DID beat a path to our door. There are many reasons—here are some . . .

Durability represent lasting satisfaction and real economy. Careful workmanship assures you of efficient rollers and quality printing at all times.

Performance Accuracy in the manufacture of and smoothness of the finished surface make for perfect performance and long life.

Inking Qualities The ability of to handle ink is the result of long research and experimentation for perfect resiliency—which makes for a perfect roller surface.

Accuracy are accurate from core to surface. They come to you accurately made and with ordinary care retain their perfect printing qualities.

Service Back of are 76 years of experience in manufacturing the rollers you have made famous by patronizing us and appreciating our efforts.

= OFFICERS

All good • All true

COMPOSITION AND RUBBER ROLLERS FOR ALL PRINTING PURPOSES

Extra Flexible Regular—Pliable—Serviceable composition.

Flexitol High Test Composition. The finest for color printing and for retarding cracking.

Elasta Non - Meltable Rollers for high-speed

Tabletine The last word in padding cement.

Rubber Rollers For newspapers-made for real printing.

Go-Prene The perfect synthetic rubber roller for lithographic and offset purposes.

Aquatex The seamless covering for dampening rollers for lithographic and offset presses.

Dampabase Our new invention—undercover for Aquatex for dampening rollers.

The "White Wonder" The roller that has everything.

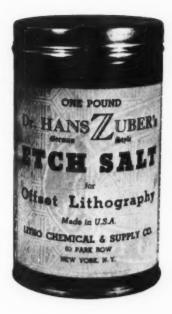
WARM WEATHER ROLLERS ... Right Now!

GODFREY ROLLER COMPANY WILLIAM P. SQUIBB, Prosident

dr. hans Zuber's

LITHOGRAPHER'S

ETCH SALT



Serves a DOUBLE PURPOSE

- Unparalleled as a plateetch for Zinc or Aluminum for Photo-offset or hand transfer. One pound dissolved in water makes 3 gallons of PLATE-ETCH.
- As a fountain etch for 2-Color or Multicolor Presses. Zuber's Etch Salt is effective as a preventive of tint without danger of blinding.

ZUBER'S ETCH SALT CONTAINS NO CHROMIC ACID
OR BICHROMATE

Full directions for use on label, ALSO pH VALUE OF VARIATED FORMULAS.

PRICE LIST

Single Pound—each \$2.20 5 Pounds per lb. 2.15

10 Pounds per lb. 2.10 25 Pounds per lb. 2.00

F.O.B. Dealer or New York

LITHO CHEMICAL & SUPPLY CO. 63 PARK ROW

MEET TWO Insurance Agents!*

Pacemaker OFFSET

Here is a paper that gives real Insurance of high quality printing results. Its brilliant white color, closed compact structure, strong fibre and tub-sizing feature

will answer any litho-printing problem. Use Pacemaker Offset on your next job, it will prove to be Insurance for Customer satisfaction.

BROCKWAY COVER

Brockway Cover is a natural companion to Pacemaker Offset, with built-in features that distinguish it as the leader in the reasonably priced

field. Like Pacemaker Offset, its use will prove to be Insurance of customer acceptance and satisfaction. When a job requires cover stock, try these two—Pacemaker and Brockway. This combination is hard to beat in Offset Printing.

Pacemaker Offset

Available from mill stock in white and five colors and in eight embossed patterns, as well as the regular machine finishes. Laid marks, deckle-edge and special colors available on order.

Brockway Cover

Comes in nine pleasing finishes and eleven colors. Available in basis 20x26--50 and 65 lb. weights. In 20x26--23x35 and 26x40 sizes. Other sizes and weights on order.

Write us on your business letterhead for full information and samples.

THIS PAIR!

GEORGE A. WHITING PAPER COMPANY

MENASHA, WISCONSIN



Modern strip film technique makes possible the sparkling sharp detail in reproduction that every photo-lithography customer wants. But for successful results, it demands rigid control of developing temperature. The Kellogg-American Photo Tray Cooler is engineered especially for this purpose. It turns out the kind of negatives that makes lithography the beautiful job it should be. It quickly pays for itself in savings in time, film, chemicals and make-overs. And earns a

substantial bonus in satisfied customers for your service.

One-tray and three-tray models available, with and without refrigerated cabinets for chemical storage. Write for descriptive literature.

AMERICAN BRAKE SHOE & FOUNDRY CO.
KELLOGG DIVISION
91 HUMBOLDT ST. ROCHESTER, N. Y.

KELLOGG-AMERICAN PHOTO TRAY COOLER

KEEPING IN TOUCH



HERE'S A STOPPER!

Here's a stopper! This color photograph, Midsummer Refuge, by Toni Frissell, first appeared in the July Frissell, first appeared in the July 15, 1940, issue of VOGUE, and now it has been reprinted in the new U. S. CAMERA ANNUAL 1941. Like so many fine publications, both VOGUE and U. S. CAMERA are printed with IPI inks.

Now the picture on the left has been reproduced with IPI Litho inks. The color values of the original photograph are represented in smooth, rich hues that are a tribute

to the lithographic process—and IPI offset process inks.

Leading lithographers tell us that for fine color work they use IPI inks. IPI's color leadership, won through years of comprehensive, basic research in the science of color and its application to the Graphic Arts, is your assurance of stronger, faster, more lustrous color inks. There are new IPI litho colors which will help you to get the best results with your color subjects. For more striking color effects, on paper or on metal, use IPI inks!

PROCESS INKS

Modern color reproduction is the result of contributions through the centuries from a veritable League of Nations—China, Holland, France, Germany and England and, finally, the United States.

Offset color lithography, as we see it today in this country, has probably reached its highest state of perfection, considering the enormity of the production problem frequently

One important factor in offset color work is ink. The formulation of process inks must meet many exacting specifications, not only in color matching, but in performance

on the press.

Leadership in color research has given IPI an outstanding position in the field of inks for color reproduction. The Recording Spectrophotometer, a complex measuring instrument which was used first by IPI, makes it possible for IPI to establish the mixing characteristics of offset process inks and to evaluate continued on following page

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KEEPING IN TOUCH

COLOR ODDITIES

- "Camouflaged" homing pigeons have been bred for use during war. They are gray mottled so as to blend into a cloudy sky without being easily detected.
- Red is still the commonest color used in advertising and printing (excepting black, which technically, is not a color at all).
- A red or orange package will look heavier and bulkier than a light blue or green package, according to some designers.

REMEMBER! IPI's Lithographic Supply Department's motto is "everything for the lithographer." Plates, blankets, molletons, flannels, tubing, etches, powders, and all of the varied materials which the lithographer may require are available from one reliable source-IPI.

continued from preceding page them in relation to the ideal subtractive primaries. With such controls, pigment research can be conducted intelligently and with the correct objectives in view. Process ink formulations are tested on offset presses which simulate actual pressroom conditions.

Proof of IPI leadership is the large number of important color jobs which are lithographed with IPI process colors. Some of these jobs are shown on this page. We wish we could show the hundreds and thousands of packages, labels, pamphlets, magazines, metal containers, posters and displays on which IPI offset process inks were used.



How to Cure a Grouch



FIRST SALESMAN-"Wow! He's in a tough mood this morning! Take my advice and come back

tomorrow when he calms down."
SECOND SALESMAN—"Wish I could, but I've got to get his approval today on that big color job."



THE COLOR PARADE OF LITHOGRAPHY

The fastest growing branch of the Graphic Arts is lithography, according to figures re-leased recently by the United States Census of Manufactures. IPI's lithographic department reflects this amazing growth. In three years, IPI litho sales have doubled and tripled. Part of this phenomenal rise is due to new products—products like Lithox and the new offset colors produced by IPI re-search. In hundreds of plants, IPI offset

INTERNATIONAL PRINTING INK .

inks are helping lithographers to produce fine color work—work like the jobs shown in the illustration above. Control laboratories in IPI factories have made an exhaustive study of the burning out of tints in offset lithography for both outdoor and indoor use. On paper or on metal, IPI offset inks help to speed production. Take advantage of the developments of IPI research by using IPI lithographic products!

75 VARICK STREET, NEW YORK



SALESMAN-"Well, here they are, Mr. Flint, our first proofs, right off the press.'

CUSTOMER-"Hmpf! It's about time! What do you fellows do over there all day, play pinochle or listen to the horse races?"

customer-"Not bad-in fact, pretty 100d. Those are swell colors—they really spark! SALESMAN-"Gee, thanks, Mr. Flint. CUSTOMER-"By the way, whose inks did you se?

SALESMAN-"Oh, we always use IPI offset it ks!

The **MOST MODERN** OFFSET PRINTING PLANT in Passaic County



Another Printer equips for greater efficiency, greater profits with Matched Modern ATF-Webendorfer

Offset Equipment

"WE TOOK plenty of time in selecting our offset equipment," says Mr. Harold J. Hersinger, President of Alexander Hamilton Printing Company, in which plant the above pictures were taken. "After careful consideration, we decided on ATF Precision Camera, with matched plate-making equipment, and the ATF-WEBENDORFER Chief 22 Offset Press. This gave us a streamlined, compact department; with each piece of equipment designed to conserve space...simplify every step to provide speedy, accurate work. These features, plus ATF engineering layout cooperation, and the low cost of the equipment, left no other equipment choice." • May we show you how economical, practical ATF-Webendorfer offset will fit in your plant? Consult your nearest ATF Branch, or Dealer.

200 ELMORA AVENUE, ELIZABETH, N. J. • BRANCHES AND DEALERS IN PRINCIPAL CITIES

It's Quite Obvious,

my dear Watson-

● Photo-lithographs are most realistic when light of daylight quality is used at the camera. The even balance of *all* colors gives the widest range of tone gradation and the most accurate reproduction of tone values.

Furthermore, this superior quality is evident in black and white as well as in color reproductions.



COLOR DISTRIBUTION OF LIGHT





NATIONAL CARBON COMPANY, INC.
Unit of Union Carbide and Carbon Corporation

CARBON SALES DIVISION, CLEVELAND, OHIO General Offices: 30 East 42nd St., New York, N. Y. Branch Sales Offices: New York, Pintsburgh, Chicago, St. Louis, San Francisco

SERVICE PLUS QUALITY!

HAS MADE OUR PLANT THE WORLD'S LARGEST

WE SPECIALIZE IN SMALL PLATES

ALSO REGRAINING MULTILITH

ZINC and ALUMINUM PLATES

UNGRAINED-GRAINED-REGRAINED

LITHOGRAPHIC PLATE GRAINING CO.
OF AMERICA INC.

37-43 BOX STREET., BROOKLYN, N. Y. EVERGREEN 9-4260, 4261



RUTHERFORD MACHINERY COMPANY

DIVISION . GENERAL PRINTING INK CORPORATION

MAIN OFFICE:

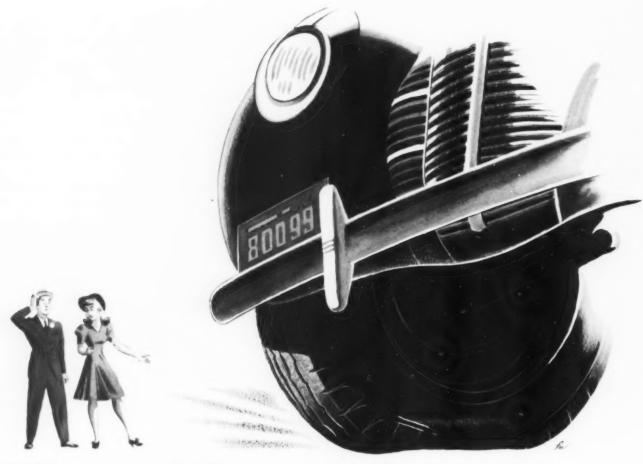
608 So. Dearborn St. Chicago, III. 100 Sixth Avenue New York, N. Y. 1425 Folsom Street San Francisco, Cal.

920 St. Sophie Lane

176 John Street Toronto, Ontario

Montreal, Quebec

GENERAL PRINTING INK CORPORATION -- DIVISIONS: American Printing Ink Co., Eagle Printing Ink Co., Fuchs & Lang Mfg. Co., Geo. M. Morrill Co., Sigmund Ullman Co., Sun Chemical & Color Co.
Chemical Color & Supply Co., Rotogravure, Export, General Printing Ink Corporation of Canada, Ltd.



"But it's Flat in Only One Place!"

BUSINESS can't travel far and fast on advertising that's handicapped by poor paper. Sure, there'll be some response, but additional volume far exceeds the extra cost of having advertising travel on paper that's worthy of the message. Champion is the largest maker of offset papers; controls its own sources of materials; and operates three great, modern mills. The line of Wedgwood Offset is complete, with uncoated, coated, wove and special finishes, white and colors. Use Champion Wedgwood Offset always . . . it helps hold up a good sales story!



THE CHAMPION PAPER AND FIBRE CO., Hamilton, Ohio

MILLS AT HAMILTON, OHIO . . . CANTON, N. C. . . . HOUSTON, TEXAS

Manufacturers of Advertisers' and Publishers' Coated and Uncoated Papers, Cardboards, Bonds, Envelope and Tablet Writing . . . Over 1,500,000 Pounds a Day

DISTRICT SALES OFFICES

NEW YORK · CHICAGO · PHILADELPHIA · CLEVELAND · BOSTON · ST. LOUIS · CINCINNATI · ATLANTA

EDITORIALS

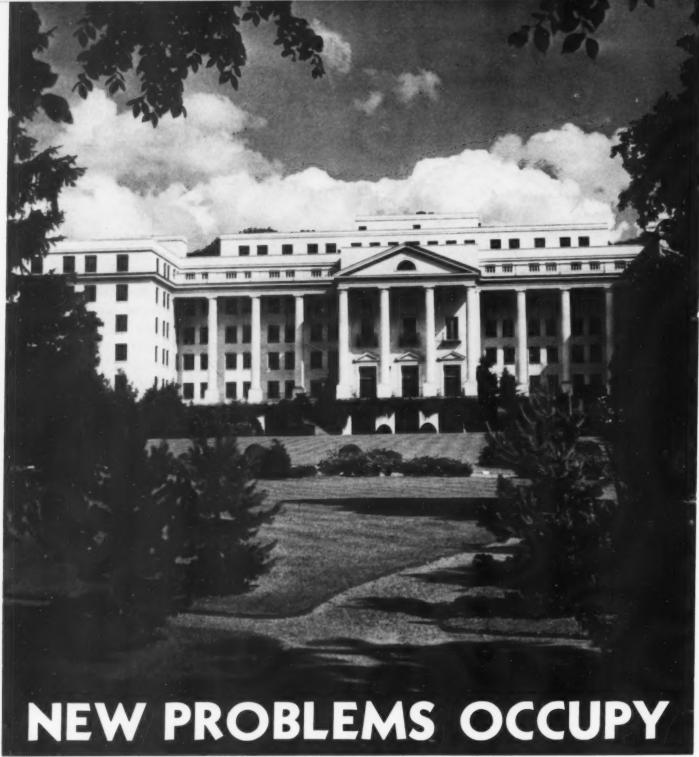
PTIMISM on the one hand, and somewhat less than optimism on the other are neatly balanced in the figures reported as the expected increase in national income during 1941, and the figures which the government expects to raise through taxes and the sale of defense bonds and stamps for the same period. The first is estimated at \$10,000,000,000, the second at \$9,600,000,000 -\$3,600,000,000 in taxes and \$6,000,000,000 in defense bonds. So nicely do they balance that the remark offered by one economist that the fiscal program of the government has been "designed to cripple private purchasing power and consumption by U. S. citizens" would appear to about sum up the situation.

That the tax program and the sale of defense bonds and stamps will cut deeply into the flow of consumer dollars going into channels of trade and severely diminish competition for consumer goods goes without saying. When on top of this the effect of the new excise tax schedules and increased manufacturing costs are taken into consideration, it is plain to see that the national advertiser is confronted with a situation wherein competition for consumer goods has been cut to the bone. If, in addition, he has been forced to curtail his production of consumer goodsas in every probability he will be—so that the national defense effort can be pushed to the utmost, he is, to put it mildly, in somewhat of a dilemma so far as his advertising is concerned. Why should he spend money to advertise? In the first place the consumer has no money; in the second place even if he did have, the advertiser is in no position to fill increased orders; and in the third place it might be construed that he was competing with the government for the consumer's dollar.

There are two schools of thought on why he should continue to advertise. The first we strongly condemn as fallacious and harmful. Yet it has enjoyed somewhat of a vogue despite its obvious spuriousness. It is that since advertising is a normal and justifiable expense, the advertising appropriation might just as well stand, or even be increased, for otherwise much of it is absorbed in taxation. That's a dangerous argument. No sincere believer in advertising needs to be told that unless advertising is sold on its own merits, it were far better it were never sold at all.

The second school of thought we endorse as heartily as we condemn the first. It is one with which the lithographer should become thoroughly familiar from every angle, and there are many angles, for it will be the strongest, most plausible and convincing sales argument he will have in the months to come. It is that this is no time in which to think of advertising only in advertising terms. It must be thought of now in public relation terms, and it is essential that the national advertiser continue to advertise now to maintain his name, his reputation and as much of his market as possible against the time when normal conditions are restored.

The lithographic industry is probably more closely affected by trends in advertising than any other branch of the graphic arts. If for one reason or another the national advertiser decides to spend more or less this year than last, that condition is reflected throughout the entire industry. That's logical considering that the things the national advertiser spends money for-window and counter displays, floor stands, posters, maps, etc.—are among the chief products manufactured by lithography. So it stands to reason that what the national advertiser does, or can be persuaded to do, is vitally important to the lithographer. We hope that the lithographer has anticipated the national advertiser's dilemma and is prepared to help him out of it.



Ewing Galloway

Like all trade associations this year, the Lithographers National Association, meeting for its 36th annual meeting at The Greenbrier, White Sulphur Springs, W. Va., will have more than enough to talk about during its 3-day session, May 27, 28 and 29. Problems facing all industry and all business likewise face the lithographic industry. Taxation, Priorities, Advertising, Raw Materials, Defense—these are the general subjects which must be

swallowed and digested before appreciable enlightenment or information can be focussed on the particular problems of an industry in these times.

A brief glance at the prospectus for the LNA's convention program indicates that all the information available will be mustered on these general subjects, and that they will be whittled down to size to provide an approach to the specific problems facing the lithographer in the months

ahead. To paraphrase Voltaire, "Everything is uncertain in this most uncertain of all uncertain worlds." Despite the handicap of rapidly changing conditions, however, so that no man, regardless of his background or vision, can safely predict today what may happen tomorrow, the Lithographers National Association has been astute in organizing a program which will intelligently hint and suggest just what kind of a world the lithographer may

be living in the next twelve months.

First, and perhaps ablest speaker on the LNA convention program who will probably throw most light on future conditions-at least on a phase especially important to lithographers-is Dr. Howard T. Hovde, president of the American Marketing Association, and assistant professor of Marketing at the Wharton School of Business and Finance, University of Pennsylvania, Philadelphia. Dr. Hovde will talk on "Advertising Trends." In view of the huge tax bill faced by the U.S. consumer, the plan of the government to divert a share of the consumer's dollar towards defense stamps and bonds, and luxury taxes, all of which cannot but help cut into the flow of consumer dollars going into channels of trade, the task faced by advertising in the months ahead is tremendous. Indeed, advertising's task is peculiar in that it is faced not so much with a challenge of its effectiveness, but with the delicate problem of avoiding competition with the government and the defense program.

Dr. Hovde, whose talk is scheduled for Thursday morning, the 29th, will attempt to show how advertising trends are being shaped by the present emergency. He will discuss the course of advertising during World War I briefly, for comparative purposes, although, as he will point out, there is no indication that the







W. FLOYD MAXWELL

. . . president and executive secretary of the Lithographers National Association.

of professional and practical business success. He is a prolific writer and the list of publications which have carried his contributions constitute a veritable "Who's Who" of the leading business and professional publications.

A second speaker of importance in helping the lithographer become adjusted to the new conditions, and who will follow Dr. Hovde, is David J. Finn, advertising and sales promotion manager of RCA Manufacturing Co. If Dr. Hovde, by his presentation of current and probable future trends of advertising, may be said to set the scene, so to speak, for the lithographer, it will be Mr. Finn who will inform him what part he can perform, and how. For Mr. Finn, through many years of experience in planning and purchasing advertising of outstanding effectiveness, has earned the reputation of

LITHOGRAPHERS

trend of advertising now will parallel the trend followed at that time. He will discuss at great length the effects of the present war on advertising in Great Britain, and it is expected that this part of his talk will prove of great interest to lithographers. Dr. Hovde, with his long professional record in the marketing field, is unusually well-qualified to discuss current advertising trends, and at the same time, perform some crystalgazing as to probable future trends, which he undoubtedly will do. His experience has been a happy blend

Convention, May 27-30.
Raw Materials Supplies,
Advertising Trends,
Taxation a few of the subjects up for discussion.



DR. HOWARD T. HOVDE, president of the American Marketing Association, and assistant professor of Marketing at the Wharton School of Business and Finance, University of Pennsylvania, who will address the convention on "Advertising Trends."

knowing more about the versatility and adaptability of lithography than you can shake a stick at. He will discuss at length how he has used lithography, and how he intends to use it to solve his advertising and sales promotion problems. He will be remembered as the forceful speaker who addressed the Printing and Advertising Clinic held at the Living Lithography Exhibition at Philadelphia last fall, and as the author of the prose-poem "The Voice of Lithography," which made such an impression.

So much for Thursday's program.

'HE first day of the convention, Tuesday, will be devoted to a discussion of the defense program in general, and, specifically, to the lithographic problems which it has engendered. The Selective Service Law, Priorities, procedure of the Office of Production Management, defense requirements of the lithographic machinery manufacturers and their effect on lithographic production, are a few of the subjects which will be covered. Due to the fact that this picture is changing daily, there were no speakers assigned to the various topics up to the time we went to press. However, lithographers are assured that each of the special subjects will be covered by

Are you planning to attend MODERN LITHOGRAPHY'S "Take It Or Leave It-Double Or Nothing" quiz session to be held on Tuesday evening, the 27th, at the convention? Maurice Saunders, chairman of the L. N. A. board, will serve as master of ceremonies. If you have ever listened to Bob Hawk on the Eversharp radio broadcasts Sunday nights you know what a "Take It Or Leave It-Double Or Nothing" quiz session is like. Well, this one will be similiar except that it will be planned especially and exclusively for the amusement of the L. N. A. and their guests. There will be cash awards and a jackpot, of course. Don't miss it! It's going to be lots of fun!

experts, and it is safe to predict that this session will be one of the highlights of the convention. Lithographers are finding out that all-out defense is coming closer and closer to their particular problems and that they, along with the rest of American industry, face uncertain times.

The program on the following day, Wednesday, will be another session especially planned to help the industry adjust itself to the defense program. Since the prospect of heavily increased taxation, a planned downward structure on price control, widespread demands for wage increases, and many other factors have an important bearing on industrial profits, new emphasis is placed



ROBERT J. BUTLER, Fuchs & Lang Manufacturing Co., who will preside at the panel discussion covering recent developments in inks, paper, machinery, etc., which are expected to contribute to the future growth of the lithographic industry.

on the importance of efficient and economical production. Therefore, a session has been carefully worked out to present in non-technical language a brief resume of recent important developments in the technique of lithography, and in inks, paper, machinery, etc., which are expected to contribute to the immediate future growth of the lithographic industry. Since many heads of lithographic establishments are not technical men, careful attention will be given by the speakers to present their talks so as to enlist the attention and understanding of all present. Following the panel discussion, the session will be thrown open for questions from (Turn to page 63)

How the Norman Rockwell painting in the insert opposite was used to win interest and attract in a pleasing, dignified manner is shown in this window display by Forbes.

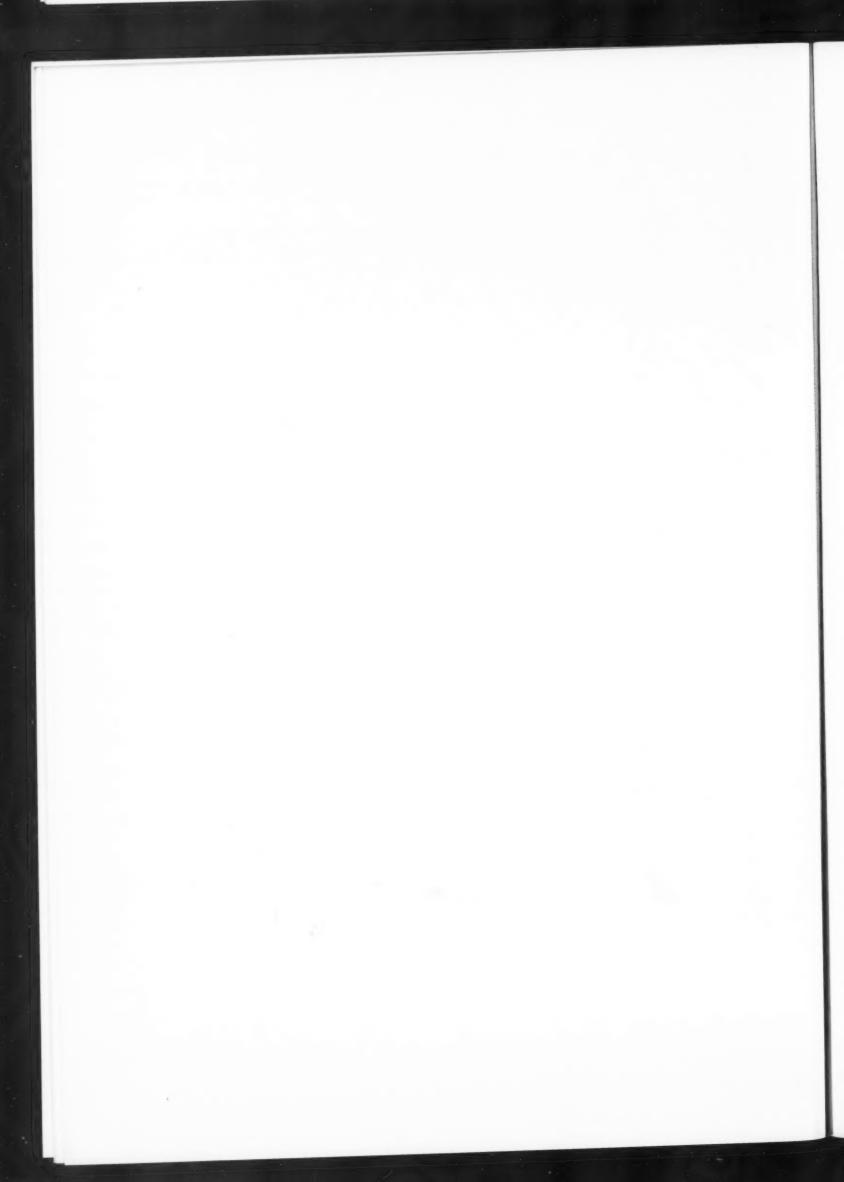


MODERN LITHOGRAPHY



Lithographed by The Forbes Lithograph Company, Boston.

Courtesy: The Upjohn Company.





REVIEW

BY J. S. MERTLE, A. R. P. S.

Technical Director, I. P. E. U.

ANY review of a process as ramified as photolithography must of necessity be circumscribed, unless one has in mind a voluminous survey, which certainly is out of the question in the present contribution. We shall therefore touch only the highlights of progress, considering at the same time their possible effect on the future of the industry.

In common with all photomechanical processes, photolithography generally requires a copy or original as the foundation for the final work. Copies are classified either as "halftone" or "line," indicative of their character and method of reproduction. Little has occurred in the direction of halftone copy, but some attention might be paid to progress made in shading sheets; material intended for the production of line copy having benday characteristics.

Permitting a flight of imagination, the spirit of Benjamin Day must view with apprehension the gradual decline of the beautiful process bearing his name—a process so favored by lithographers of a past generation, and which was responsible for much of the skillful litho color work produced before the widespread employment of the halftone screen.

Through the medium of shading sheets, the principle of bendaying is being revived: not through the transfer of inked patterns to stone, metal or paper, but through recourse to a method of rendering visible latent dot formations on the material known as "shading sheets." The latent (invisible) dot on the material is brought to proper visible strength by application of "developing" solutions, with the period of "development" continued until a dot of the required size has been obtained. A design or image so produced serves as a line copy, intended not only for black-and-white, but also color reproductions. Patents for such material have recently been issued to Louis S. Sanders (U. S. P. 2,224,270), Maurice D. McIntosh (U. S. P. 2,224,269; 2,224,654) and

William Isler (U. S. P. 2,224,271), the material offered by the Craftint Manufacturing Company.

A trend to the actual benday principle of transferring pigment or color is displayed in the patents (U. S. P. 2,228,280; 2,228,281; 2,233,791) granted to Theodore L. Maddock, the patents covering material consisting of transparent sheets or films of cellulose acetate, bearing on one side a transferable coating of pigment, varnish and wax, said coating capable of being set off to the paper or other surface by application of pressure to the back of the sheet.

Even the old Rossboard idea is being revived for the production of line drawings, as witnessed by the patent (U. S. P. 2,229,867) issued to Joseph F. Murphy for an opaque sheet of artist's paper, one side of

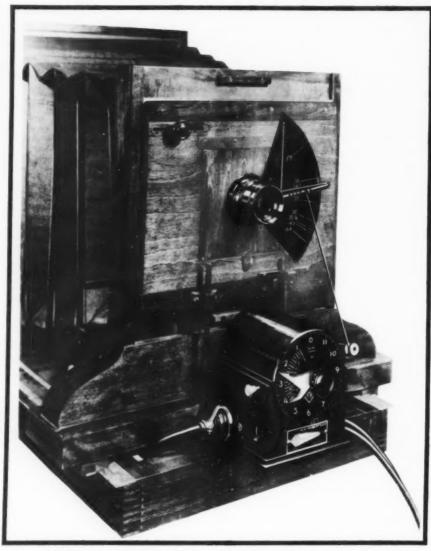
Highlights of recent technical progress and a word about their possible effect on the future of lithography.

which is provided with reticulated lines closely spaced to give a halftone effect in images or designs created on the surface with pencil or pen.

Typewritten copy frequently introduces difficulty in photomechanical reproduction, which caused Frank H. Smith (Brit. Jour. Phot., 87, August 23, 1940, 407) to cite two methods of typing: the first involves typing directly on a sheet of carbon paper placed over a sheet of white paper, with the ink ribbon on the typewriter either removed or switched to the "stencil" position. The second method embraces a sheet of carbon paper in contact with a sheet of contrasty (glossy) contact paper, the typing performed in a darkroom illuminated with a bright yellow safelight. After the type characters have been impressed in carbon on the photographic paper, the latter is removed and intentionally fogged by exposure to white light, after which the image is developed, resulting in a paper negative of the typed text matter.

Applying films or coatings to the glass elements of photographic lenses to increase their speed by the elimination of surface reflections is occupying the attention of physicists, and has already been given certain application to process lenses. The greater the number of elements in the lens, the greater the increase in speed, with increased freedom from halation and the optical error known as "flare." This, coupled with the possibility of lenses made of plastics, may be the key opening the door to further advance in constructional optics.

Coming now to halftone photography, R. R. Robertson has introduced a combined diaphragm, timer and arc lamp control for process cameras. The lens apertures and time of exposure are automatically set, and the lights, on completion of exposure, automatically switched off. The use of a tonal chart in halftone photography has been patented (U. S. P. 2,204,080) by August C. and Harry E. Hansch. The tones of the chart are compared with the tones of the copy, thus ascertaining the exposure required, which is given with the 3-stop system, involving high-



Robertson combined diaphragm, timer and arc lamp control

in photolitho halftone reproduction. Some of the lighlighting processes are based on partial exposure of the image after removal of the halftone screen. In this direction, the Douthitt Corporation offers an optical compensator, intended to compensate for the refraction of light caused by the halftone screen, thus dispensing with the necessity of substituting a piece of plate glass for the halftone screen during supplemen-

light, middletone and detail stops.

Highlight images are a necessity

The Douthitt device can be advantageously employed with the Fluorographic process of highlighting, although a similar device has been made for a number of years by Max Levy & Company.

tary exposures in either highlight or

line-halftone combination negatives.

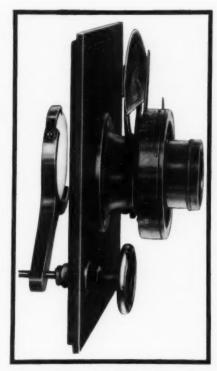
IN the field of camera materials, the British branch of the Eastman Kodak Company announces Photoscript plates, coated with a very thin emulsion film, on which line engraving can be performed as additions to images. The plates are said to be from twenty to thirty times faster than wet collodion, the thin film lending itself to halftone photography, dot etching, and particularly to chemical reversal of images. Agfa Ansco announce their Reprolith Panchromatic film for line and halftone color photography, the film incorporating a process panchromatic emulsion of high contrast, coated on a acetate base .006 inch thick. Under the trade name Photolith, the DuPont Film Manufacturing Company has introduced a new film especially intended for photolithographic line

and halftone reproduction. Claims made for the material include contrast, speed, definition, also sharp line and dot formations.

Stripfilm continues to displace the wet collodion process, particularly in photoengraving galleries, also in photolithography. Although no comparative figures exist as to lithographic use of stripfilm, the survey conducted by the American Photo-Engravers Association (Photo-Engravers Bulletin, 30, December, 1940, 10-12) gives some idea of how this material has come to the front for line and halftone negatives: out of 589 plants reporting, the survey shows 255 plants exclusively using wet collodion, 237 plants exclusively using stripfilm, and 97 plants using both materials. The wet collodion process always has been popular in photoengraving (because of the necessity of reversing the position of the negative), but even here we find stripfilm nearly on a par with wet collodion, denoting the possibility that within the next generation, the wet collodion process will be relegated to virtual obsolescence.

A commercial developer for line and halftone images has been introduced by the Philip A. Hunt Company under the name Graph-O-Lith. In connection with developing solutions, Percival Wilde (U. S. Camera Magazine, February, 1941, 68) calls attention to the addition of Aerosol as a wetting agent in developers: it causes the solution to creep over the film smoothly, wetting it uniformly, and decreasing the need for rocking or agitation of the developing solution. The use of Aerosol should be an advantage when developing the large plates and films frequently used in photolithography.

Passing mention might be made of the discovery of Dr. C. E. Kenneth Mees (Eastman Kodak Company) that the developed image does not take the form of a "grain," but really assumes a lacework pattern of incredibly fine lines. The Mees discovery resulted from research conducted with an electron microscope (capable of magnifying 25,000 diameters), and may point the way to elimination of "graininess" in photographic images.



Douthitt Optical Compensator

The subject of color prints occupies the forefront of attention: huge sums of money are being spent, patent offices of various countries deluged with ideas, and barrels of ink spilt in description of processes, but the truth of the matter is that there still is no simple and direct method for making photographic color prints. It is freely admitted that thousands of commercial color prints are being made every year by processes such as carbro, washoff relief, chromatone, but even the most enthusiastic proponents of such methods can hardly claim that the processes are direct and simple.

Perhaps we should be satisfied with the progress made, but we may as well admit that present procedure is somewhat messy and a far cry from the ultimate goal of reliably obtaining full color prints by simple development of the paper print. Such a process would be one of the greatest events in photographic history, but in spite of the colossal amount of research expended during the past hundred years, color photography still is far from the goal!

That the idea of simplified procedure in color photography is constantly kept in mind by research workers is evidenced by the recent improvement effected in processing (developing) Kodachrome films. Instead of three separate developments on three continuous processing machines, the film is now processed continuously on a single machine. The process still is long and complicated—merely another indication of the expense and indirect methods involved in present day technique of obtaining color results by photographic means.

If patent office records are any criterion, interest in methods of color correcting separation negatives has waned slightly during the past year, although color photographers still are devoting attention to securing more accurate color rendition by recourse to masks and other supplementary measures. In our opinion, color correction has nearly been "ridden to death," and the process perhaps impeded by extravagant claims made for the efficiency of this or that method. When the results are not forthcoming, the interested color operator likely as not will become skeptical of the entire principle.

Concerning color correction, one should bear in mind three salient points: the principle is by no means new-it was originated in 1897 by Dr. Eugene Albert; some of the methods are rather complex, necessitating a number of extra operations, which increase the time of production in the gallery, frequently without a commensurate degree of correction of image; the final result obtained by color correction procedure is more or less governed by the character of the copy-not all copies lend themselves to color correction by pure photography.

ATTENTION might be drawn to the fact that with some copies, it is occasionally more desirable to eliminate "under color," i. e., to partially or entirely remove one or more of the primary colors in dark or heavy areas, so as to secure a more accurate representation of black or other heavy color, thereby saving much time on the part of the artist or dot etcher. While this might be called "color correction," the real aim is not so much to "correct" bright colors as it is to lighten or re-

move color from dark areas, an operation not easily effected in many of the so-called "correction" methods. At least one process has been called to our attention for the elimination of under color, but no publicity is at this moment desired by the inventor.

Correction of halftone images immediately calls to mind the process of dot etching. Paul H. Jamieson has patented (U. S. P. 2,206,190) a method based on the preliminary partial hydration of the gelatin emulsion image, after which iodin is applied to the partially hydrated surface. Apparently the aim is to convert the developed silver of the image into silver iodid, which is more soluble in solutions of photographic reducers. For convenience in dot etching, the Studio City Laboratory offers a kit of materials under the name Kemikal Retuch, the kit containing preparations for local etching of halftone images without the necessity of staging on the plate or film.

Because of the national defense program and warfare in Europe, some difficulty is being experienced in securing potassium ferricyanid, a major constituent of Farmer's reducer, so popular in dot etching. The American Cyanamid & Chemical Company announce as a substitute for this salt, *Redsol Crystals*, said to be much cheaper than imported ferricyanid, and usable in any formula calling for potassium ferricyanid.

Twentieth century chemistry can point to many achievements, but perhaps none holds greater promise than the introduction of plastics. It is impossible to predict to what wide future use such materials will be put—certainly the horizon of possibility is very alluring. Viewing the present employment of plastics in photography, one finds them used for lenses, color filters, bench tops, drain boards, chemically-resistant wallboard, pipes and tubes, to say nothing of their use in processes such as electrotyping and stereotyping.

Bearing in mind the flexibility and resistance to corrosion possessed by certain plastics, and risking accusation of being termed visionary, we raise the question as to whether sheets of plastic could not be employed as litho printing surfaces in substitution

for zinc, aluminum and stainless steel plates, especially in the albumen process of platemaking? Several seeming advantages are in favor of plastic surfaces: greater imperviousness to oxidation (less danger of scum); transparency of plate, if desired (aiding checking of register); lesser penetration of ink into the surface of the material; lesser attrition of surface, because of resiliency of plastics; possibility of using stronger etches and fountain solutions without affecting the surface.

One assumes, of course, that a grained surface will be required, as on metals. While it is not outside the realm of possibility to mechanically abrade the surface of plastics, it is doubtful whether a grain so produced would be as sharp and cleancut as that obtained on a metal plate. But why could not a metal plate, possessing a satisfactory and extra-deep grain, be used as a master plate, from which sheets of grained plastic could be obtained by molding or casting? If successful, one condition would be mastered: uniformity of grain, a state of affairs not always possible on metal.

There is the possibility, however seemingly remote at present, that some discovery may be brought forth to eliminate graining, perhaps by provision of a really reliable chemical surface or coating (capable of absorbing both water and grease), in which case the use of plastics would seem of direct consideration. Nobody denies that the art of Senefelder was well founded, but after 143 years of application (in nearly its original form), it would appear logical that improved modifications of the original principle are in the offing.

Perhaps it would not be possible to make deep-etch plates on plastic surfaces: the "mordants" capable of acting on plastics might destroy the photographic image; granting that deep-etch plates will still be popular, who knows whether research may not bring forth some material which, serving as a vehicle for light-sensitive salts, would be so hardened by the action of light as to withstand the action of those solvents capable of incising a line or halftone image into the plastic surface?

A patent (U. S. P. 2,205,998) has been issued to William B. Wescott for a litho printing surface consisting of a backing sheet, a waterproof intervening layer, and a facing of amyloid parchment, on which the photolitho image is created. Others are working in a similar direction, all of which lends weight to our idea of the eventual displacement of metal plates for litho printing purposes.

S for the time-honored albumen A process, Edward F. Dell has patented (U. S. P. 2,229,052) the addition of thymol as a preservative of bichromated albumen solutions, but recent German research indicates the possibility that mixtures of bichromated albumen may yet be displaced by newer discoveries, such as solutions of polyvinyl alcohol sensitized with diazo compounds. The use of polyvinyl alcohol as a photolithographic vehicle is not exactly new, but according to Albrecht and Gockeritz (Deutscher Drucker, 46, June, 1940, 341), experiments conducted in Berlin have resulted in polyvinyl alcohol-diazo mixtures possessing high keeping quality and a sensitivity from 6 to 8 times that of bichromated gum arabic-a decided advantage in projection of images to sensitized metal or other litho sur-

Deep-etch plates continue to be the subject of research in both Europe and America. The Birmingham (England) firm of Morland & Impey, Ltd., has patented (B. P. 520,108) an electrolytic method for the production of deep-etch litho plates. Herbert L. Loeffler patented (U. S. P. 2,220,252) the incorporation of dextrin in the colloid sensitizer used in deep-etch platemaking, the presence of the dextrin in the coating permitting ready removal of the light-hardened image after etching of the plate.

Instead of glue or gum arabic, synthetic materials of German origin are being used in the process of Otto Kohler (Klimschs Druckerei-Anzeiger, 67, September 27, 1940, 798), with the claim made that over-development of the exposed plate is more or

(Turn to page 63)



PUBLICATIONS

BY ROBERT F. STONE

Executive Secretary, American Ass'n. of Industrial Editors

THERE is a beautiful rainbow over the heads of both management and labor. A few see it, but many do not. Give that rainbow a chance and a little encouragement and it will do much to eliminate strife and antagonism between labor and management. It will cement a common bond and serve as the covenant of a single-mindedness between these two groups without which there can be no "all-out aid" for our own democracy much less for Britain's.

The rainbow is the employee publication. At its foot lies a pot of gold for the lithographer. For his own sake he should point it out to others.

There are many reasons why an employee publication is important just now. The defense program in industry, which calls for the unselfish cooperation of the workers and the managers; the desire of sincere labor leaders, as well as management, for the elimination of "bad blood"; the desire of employees for greater understanding of the company for which they work; and the increased willingness of management to give employees this information, as well as general information on such subjects as basic economics, democracy, the effect of taxes on the individual employee, etc., are some of the reasons. A well-edited employee or company publication can contribute much to the solution of these problems.

How does the lithographer enter the picture? Each month over 200 different employee publications come into our office. They are all sizes and shapes, and every conceivable quality of printing is used on them, in one, two, three and even four colors, but the fact which should interest the lithographer is that only about 5% of them are lithographed!

To our way of thinking the employee publication field is a "natural" for lithography. The most popular

. . . a market that is ripe for the lithographer

type of publication with the employee is the one which uses lots of photographs. When an editor is using the letterpress process, and is asked why he doesn't use more photos, he will invariably answer: "The budget won't stand it!" Of course, the runs are not long, the majority running from 1,000 to 5,000, although some go as high as 15,000 or 20,000, and one run that we know of is 250,000.

An example of comparative costs between lithography and letterpress is revealed in the following experience of an editor who had been lithographing his publication for some time and using Varityped composition. His superior suggested that he find out what it would cost to produce the identical publication with an equal number of halftones by the letterpress process. He asked for a bid from a printer he knew did good work at reasonable prices (not the cheapest), and also asked for a bid from two photo engravers on the halftones involved. The publication was a 12-page, 8½x11 page size, monthly. The run was 1600. The difference in cost was approximately \$100 per issue! The superior said no more about switching to letterpress.

Lithography has other advantages in this field, too, which are not apparent except to someone who has had experience in industrial relations. We have no quarrel with advertising departments in industry who have been delegated to produce the employee publication; almost without exception they are doing an excellent job. But invariably, they dress it up so that it looks more like a piece of advertising produced at considerable expense. Now there is a school of thought (and we're a member of it) which says that an emplovee publication which looks like lots of money antagonizes employees more than it enlists their understanding and cooperation. Some go as far as to say that the ideal medium for an employee publication is newsprint because, after all, the most successful publication is one which resembles. in content at least, the small town newspaper. A few editors actually do a comparable job to the small town newspaper and print it in news-

THE text matter of this issue of Modern Lithography is set on the Monotype Typesetting Machine in 10-point Monotype Baskerville, with Baskerville Bold for headings. The general uniformity of color, the open design of capital and lower-case characters. and the shape of the serifs all contribute to good photographic reproduction, and make this type one of the best for use in lithography and offset printing. The design is an exceptionally legible one in both Roman and Italic. It is an exact copy of a type first used in England about 1760, by John Baskerville, a celebrated printer and type-founder of that time.

print. But the type of news which one finds in a newspaper is flash news, and once the paper is read it is thrown into a corner in the basement.

Now the lithographer has the advantage in this field, we think, because of being able to reproduce copy prepared on the typewriter or on the Varityper composing machine. Typewritten copy, of course, has a somewhat amateurish look, but that is not undesirable in this field. Varityped composition is quite similar to linotyped composition and, of course, is less expensive. In fact, the average reader would not know the difference between some of the faces produced on the Varityper and similar faces on the linotype. So, the lithographer's ability to reproduce copy by photographing it gives him this added advantage, which is two-fold. First, either of the two composition methods mentioned will save the customer money; and second, the homey and friendly effect which these composition methods create in the minds of employeereaders is quite desirable.

Here are a few replies from editors we wrote recently asking their experiences with the lithograph process. One editor wrote:

"To tell the truth, we changed to lithography to cut expense. In fact it cut the cost just about in half. With letterpress we used to

publish every month; now, because of the low cost of offset, we publish twice as often, and it doubles the interest among the employees because we use more material and pictures of workers. Here's something of interest. After the first offset magazine was published, I took a survey, asking about 50 people if they noticed any difference in the printing. Only one did! No doubt there are hundreds of our employees who don't know that there has been a change. This is enough proof for us that the higher cost of letterpress was not warranted."

Here's part of another editor's

"Our magazine has never been printed by the letterpress method. Before taking up the present photooffset process, our magazine was simply a multigraph proposition whipped together by the employees of the company. The present publication is strictly an employee proposition sponsored by the employees. While the magazine is rather heavily subsidized by the company in the form of a direct donation to the club for the specific purpose of publishing a magazine, the club itself does stand considerable of the expense. Therefore, as you may well surmise, the printing costs were of paramount importance to us and were the deciding factor in our choice of the photo-offset method. It also gave us a certain amount of flexibility in so far as reproducing the line cuts and drawings were concerned without a lot of extra expense.

"For organizations similar to our own, where price is a determining factor even though it entails a little more work on the part of the editor, I feel that this method of reproduction is quite satisfactory."

HERE is an editor who feels that offset is more attractive than letterpress:

"We have now been publishing our magazine for almost two years by the offset process. It has a very definite advantage of permitting us to use pictures profusely without increasing the cost too much. I also feel that the general effect of the offset process is more attractive than that of letterpress.

"On the adverse side of the ledger is the fact that this process is slower and printing time is at least double. I must hasten to add that this is due in part to the fact that our printer, up until just recently, has had to send his copy to a nearby town to have the plates made. He has just installed facilities for making the plates, but we have not had an issue printed since this was done.

"Another advantage that I did not mention is the fact that the offset paper has more body to it than the type we formerly used in our style of publication."

Here is an editor who produces a 32-page magazine once a month. He writes that he prepares all of the composition on his own justifying typewriter:

"Our publication was never printed by letterpress. It evolved from a mimeographed publication to a lithographed one.

"For a house organ such as ours, we believe that lithography has very definite advantages over any other type of reproduction and will probably continue this method of printing. As you know, halftone costs by this method are much less than any other way, while line drawings do not add to the cost of a page. Also, typing our own copy on a justifying typewriter eliminates composition costs."

The lithographer has two possible cracks at the employee publication field. Either he switches an existing plant publication from letterpress (or mimeographing) to offset; or he sells a company on the idea of starting a publication, in which case he also gets the job of printing it. However, a warning on the latter course-don't underestimate the importance of seeing that the company has a competent editor to produce the publication. Too many plant magazines have been started with little or no thought given to this. Often, the office boy or someone else equally incompetent has been given the job, because they wrote for their

THE American Association of Industrial Editors, a group composed of employee publication editors, held its second annual convention at the Hotel Warwick, Philadelphia, Pa., May 5, 6 and 7. Kenneth W. Martin, Harold M. Pitman Co., Jersey City, N. J., was one of the speakers in a panel discussion on "Phases of Production." Mr. Martin described the advantages of the lithographic process in the production of employee publications.

high school paper. If the plant is of sufficient size, a full time editor should be hired, one who knows something about personnel and industrial relations work, as well as being experienced in editing and writing. If the plant is small, perhaps the Personnel Manager can take on the work as part of his duties, and, with the help of his assistant, or the counsel and advice of an outside free lance man, turn out an effective piece of work. If the starting of a publication is not taken seriously enough by the company for them to make careful plans in launching it, then the lithographer won't have the job of printing it very long, because it will die a natural death before many months have passed.

Another source of assistance in getting started right is to contact the national or one of the local associations of editors of these publications who would be glad to help a new publication get started right. The only national association devoted to the interests of employee publication editors is the American Association of Industrial Editors, Inc., in Cleveland. The House Magazine Institute of New York City is of a national character, but includes editors of sales and dealer types of publications, as well as employee publication editors. Others, of a more local nature, include The Industrial Editors of Chicago and the Southwestern Industrial Editors' Association in Clearwater, Oklahoma.

The employee publication, however, should not be considered as a substitute for an employee relations policy. If a management is not sincere in its relation with its employees, money spent on a publication because a management thinks they can buy their employees' loyalty, or can kid them into cooperating—well, that sort of company is just throwing its money down the sewer. Employees are not fooled by that type of publication and want no part of it.

In all other fields, lithographers and printers alike who do a job of creative selling make the most money and have the least to worry from competition. In the employee publication field also, a lithographer can do a job of selling ideas first, the big idea behind the starting of such a publication; second, month-to-month ideas which will help his client to produce an effective publication from three standpoints-mechanical perfection, artistic and interesting page layout, and effective editorial content. Perhaps some lithographers are not equipped to handle the last named item-that of helping a client with the editorial content of his publication. If that is the case, he should make arrangements to work closely with some free lance editor who is familar with the work, just as he would also hire the services of a copywriter or an artist for the production of a piece of mail advertising.

There is, of course, the external or sales type of house magazine which is also a fertile field for the lithographer but which we won't discuss in this article. The employee publication field is just as important, and just as big. There are over 900 such publications being produced in the United States today, with new ones being started every week. Lithographers have all the arguments on their side in this field. If they don't cash in on them, then they alone are to blame.

Did you read the special announcement regarding this important market on page 40?

CONTRAST with graded screens

Are there present day applications for the graded screen which have been neglected?

BY ELBERT M. LUDLAM

In halftone printing, two general methods, both in wide use today, have been found practical. In one, the density, or thickness, of the ink deposit is controlled to produce the intermediate tones. In the other, the area is broken up into small dots, all printing in solid ink, but varied in size to control the tone's visual appearance.

The Chinese woodcut of the 9th century operated exactly as a wood cut of present date. Wherever the wood was not carved away, the surface printed a solid tone of black. Two tones only can then be produced, as with a type face, black against white. However, by juxtaposing narrow black lines separated by equally narrow white spaces, it is possible to give the visual impression of intermediate tones.

The history of halftone printing has been mile-stoned by the development of more flexible means of obtaining these visual intermediate tones. The woodcut dominated the picture until in the 14th or 15th century the principle of intaglio printing was discovered.

In contra-distinction to relief printing (the woodcut prints from a relief) intaglio is the process of printing from a hollow. The ink is not carried on the surface of the plate but in hollows cut or etched into the metal. Because of the absorbing qualities of the paper and the pressure used in printing, the ink is drawn out of these hollows. By controlling the depth of the ink-holding depressions, it is possible to obtain a very long graded scale of tones.

Many artistic processes flourishing in the 15th, 16th and 17th centuries employed intaglio. Aquatint, mezzotint, etching and line engraving all depended wholly or in part on the varied density of the ink deposit. To greater or less extent these processes used a combination of both the variable density and variable area methods. Modern intaglio, most familiar in rotogravure, exploits the variable density principle in its purest form.

Because the areas of tone variation are frequently contiguous, it is necessary in intaglio printing to confine the variations in density to tiny adjoining dots. This merely requires the breaking up of the surface of the printing plate into thousands of tiny depressions whose size and shape may be almost anything, but whose depth varies in proportion to the desired tone.

Relief printing, and the more recent surface or planographic printing processes, depend on varying the sizes of minute dots in order to obtain half-tones. This variation, of course, was under the control of the artist's hand when the original drawings, etc., were reproduced by redrawing them manually on the metal or stone printing medium.

By the time Alois Senefelder was publishing his discovery of lithography in his "Complete Course" in 1818, the basis of photography was just being uncovered. It was in fact thirty years before Fox Talbot began his first ex-

periments with regular dot patterns. He used fine muslin in his experiments and was quite successful in applying it to intaglio printing.

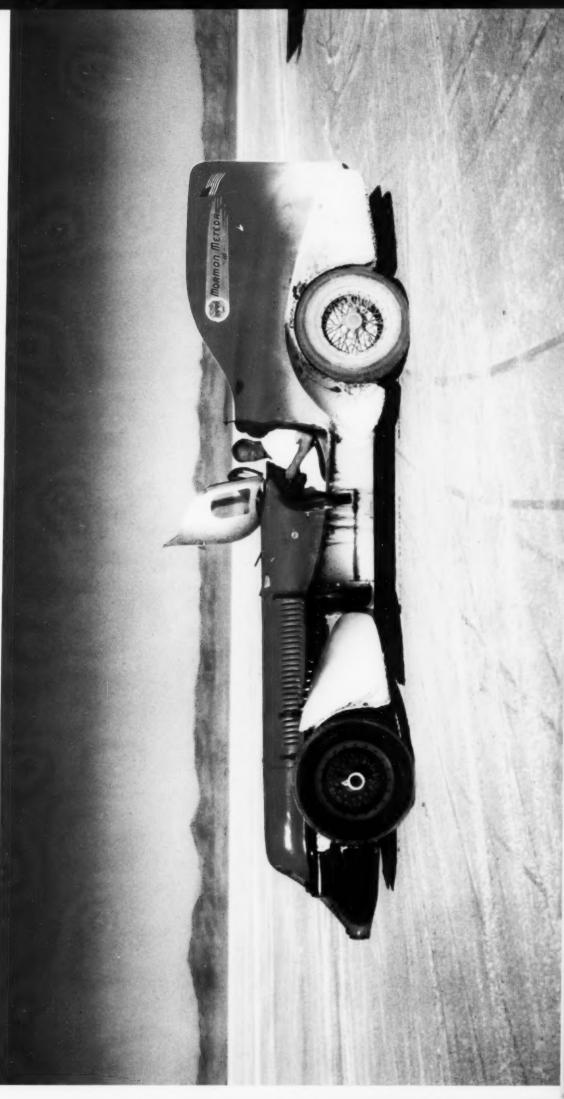
That surface and relief printing required a variable line or dot pattern to reproduce tones other than black and white was undoubtedly recognized by the early experimenters. They had but to study any artist's printing blocks to realize this. However, it was many years before it was realized that the original copy could be utilized to control the size of the pattern elements.

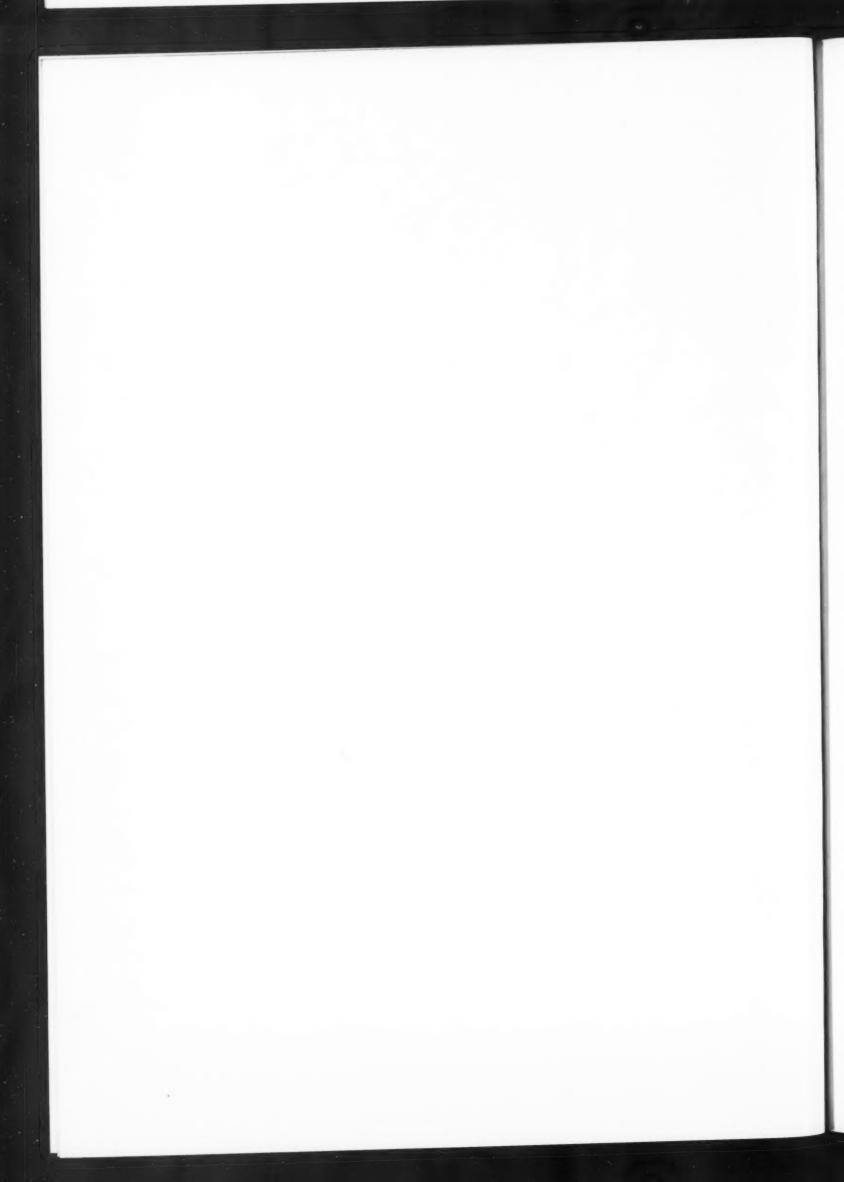
Berchtold, for instance, proposed both the solid line screen and the graded line screen as early as 1855. However, rather than using the screen to control the action of the focused image of the subject in the camera, it was merely used as an overprinting similar to the gravure method of operation.

Some years later Berchtold does describe the use of a ruled screen consisting of parallel lines, and suggests photographing the subject through the screen, giving a series of progressively shorter exposures while turning the screen at different angles. He was working toward the right end as both this suggestion and the earlier graded line screen indicate a desire to obtain the area variation photographically.



NATURAL COLOR REPRODUCTION of one of the fourteen Kodachromes as used on the 1941 Koppers Calendar. Created for the Koppers Company by Ketchum, McLeod & Grove Inc of Pittsburgh, Penna. Color plates and lithography by Copifyer Lithograph Corp. of Cleveland, O.





Sharp-lined ruled screens appear throughout the patent literature of the late 19th century. The accident of the necessary separation between any screen and the wet collodion plates then in use produced a sort of hybrid effect neither yielding a straight silhouette as in intaglio work nor a true halftone dot. Just when it was realized that the exact proportionality between this "screen separation" and the other camera factors was important, is obscure. As late as 1882, for instance, patents were issued to Meisenbach for the fixation of the screen to permit its lateral moval between each of a series of graduated exposures.

The use of a screen prepared of graded, rather than solid lines, seems to follow along throughout the last half of the century. Not until Levy perfected his methods of ruling solid line screens and began their manufacture was it possible to prepare graded screens with real satisfaction. The perfection of Levy's ruled screens and the increased understanding of their use gave such an impetus to the solid line type as to overshadow the graded type for many years.

Some interest, however, survived and several suggestions for their manufacture have been made from time to time. Nevertheless, little or no practical use of the graded screen has been attempted to date. As they are used in contrast with the negative emulsion, the slow displacement of the wet plate is probably very largely responsible. The dry plates and films now available are ideal for use with such screens and an analysis of them and their work seems appropriate.

Just what then is a graded screen? Where the ordinary screen consists of solidly ruled lines regularly spaced in two parallel groups arranged so that one is perpendicular to the other, the graded screen consists of a continually varying depth of tone. Depending on the mode of manufacture, the gradations may be in a series of steps of alternately increasing and decreasing density or they may vary as a graded strip alternately increasing and decreasing.

THE element of a graded screen might be described as a line shaded toward both sides from maximum density to zero density. The complete screen consists of two series of these

elements so arranged that the elements of each series being parallel to each other the series are placed perpendicular to one another. The appearance of such a screen through a magnifier is not unlike the checkerboard pattern of a middletone as viewed on the ground glass.

As mentioned before, the graded screen can be used in contact with the negative emulsion, being sandwiched between it and the positive in a vacuum printing frame, or it may be used in contact with the negative in the camera. The principle on which it operates to obtain halftone dots is identical to that of the ordinary screen. That is to say that the strength of the image pulling on the screen is still capable of overcoming the inertia of the emulsion after passing through appropriate densities of the gradation.

Thus, a shadow strength can overcome the inertia only through the thinnest portion of the screen. A middle tone, however, is still able to expose the emulsion after having passed through the middle tones of the screen gradation. Highlights, being still more intense, give adequate exposure through the densest portions of the screen. Negatives so made cannot be distinguished from regular screen negatives.

Several methods for preparing such screens have been recently developed. Earlier types were photographed from specially scoured plaster blocks so crosslighted as to show marked shadows. Present methods all involve preparation from the standard screen by means of special lens apertures or by moving either the standard screen or the lens aperture during exposure.

If, for instance, a ruled screen consisting of parallel lines only (½ the normal crossed screen) is carefully moved a fraction of the ruling separation each time a partial exposure is given, a graded screen will result. If five such partial exposures are given, a series of parallel lines of graduated tone will result. The graduations will vary from clear film through four increasing tones to black, and back through four decreasing tones to clear film, if the movement has been properly controlled.

Two such series of exposures made at right angles to each other comprise a completed screen. It has been the practice in preparing solid line screens to make the parallel sections separately and then bind them at right angles. Graded screens are to be used in contact with the emulsion and so should preferably be complete on the surface. Binding two separate elements together requires either that a thickness of glass remain between the screen and the emulsion, or if one is bound outside the thickness, remains between the elements. Neither case is at all satisfactory. It is much more desirable in graded screen work to have the screen in absolute contact with the emulsion surface.

Another method of preparing such screens was suggested at about the same time. This consisted in separating a standard ruled screen from the emulsion surface as for ordinary halftone procedure. A series of exposures was made to a light source placed successively at increasing or decreasing distances from the screen. In this manner, the gradations were recorded by the increased or decreased width of the shadow. Such screens proved quite satisfactory and have been in use for many years.

The graded screen has but one possible contrast, determined entirely by the steepness of the gradations of the rulings themselves. This, of course, means more uniform results in inexperienced hands, but it also necessitates having several screens to cope with variations in copy. However, it is in this very inflexibility of the screen itself that its major possibilities lie.

It is common practice in solid ruled screen work to make a number of exposures to the copy under specified conditions. These exposures will be given for the purpose of specifically controlling the highlight dots, the middle tone dots, or the shadow dots separately. Besides these, a so-called flash exposure is given to assure an adequate dot core. All these separate exposures serve specific purposes and in the hands of an expert yield great flexibility to the process.

Unfortunately, it takes years of experience to develop the judgment required to properly use this flexibility. Generalities and average condition formulae have often been suggested, but, being based on average conditions, they are seldom really practical. The necessary experience is, of course, available

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Auxiliaries

FOR THE PROCESS CAMERA

T IS to be expected that a process camera will produce negatives of utmost sharpness and clarity and will retain its alignment throughout its useful life. These features are looked for and found in most of the available darkroom type process cameras. There are, however, many accessories that are as important as the camera itself. Unfortunately in most cases they are overlooked. It is the intention of this article to review the purposes and advantages of a number of camera accessories.

Compensating Lens

The influence of the glass of which a halftone screen is composed causes the light rays passing through it to be bent or refracted. This refraction alters the distance of travel of the rays of light from the lens to the film. When the camera has been focussed with a halftone screen in place and

the halftone screen is then removed, the size and sharpness of the image is no longer the same as when the screen was in place. If it is desired to obtain an image of the same size as with a screen in place, the focus must be altered somewhat to compensate for the refraction. In many instances, such as combination line and halftone work, certain highlight negative processes, etc., it is imperative that the image with the screen coincide with the image without the screen. It is also important that both line and halftone images come to the exact same focal point, particularly if the camera has a precision focussing scale or automatic focussing. In this regard, unless adequate provision is made, the focussing system will be valid under either line of halftone use, but not both.

In order to reconcile the variants between line and halftone focal

points, the compensating lens has been created. This compensating lens consists of a piece of glass of certain optical characteristics which possesses the same refraction index as the halftone screen. In simpler terms, the compensating lens has the ability to distort or alter the rays of light emanating from the lens in precisely the same manner as the glass of the halftone screen. It is mounted on the lens board panel immediately behind the camera lens and may be moved in or out of position. The movement of the compensating lens may be controlled from the outside of the lens board, or, in more elaborate models such as the Valette, electrically from inside the darkroom. In use, the compensating lens is brought into position behind the camera lens when shooting line negatives and is then swung out of position for halftone work.

Flash Lamps

In most cases, halftone work requires an auxiliary exposure to build up the proper opacity in the shadow dots. The old procedure of placing a white sheet of paper or cardboard over the copy is a time-consuming as well as inaccurate procedure. Not only does it require that the operator leave the darkroom, but in time this flash sheet becomes dirty and wrinkled which gives rise to an unevenness in the flash exposure. To obtain a more

Many are just as important as the camera itself, yet frequently neglected. Herewith are discussed the advantages of some of the more obvious. uniform flash exposure it is advisable to resort to a flash lamp. This consists of an electric bulb in a housing with suitable optical arrangement



Pitman Flash Lamp

(condensors) which produces a uniform and concentrated light source. A flash lamp is operated at a very short distance from the front of the lens and insures a short but uniform flash exposure. Flash lamps are available in many models. The least expensive is entirely hand operated. The photographer brings it into position in front of the lens, holds it during the exposure and then sets it aside.

Another model may be swung in

and out of position manually by means of a bracket which attaches the lamp to the front of the camera. The most practical model is one which is completely automatic in operation and which is controlled entirely from the darkroom. By push-button control the operator can bring the flash lamp in or out of position and, by means of a synchronized electric timer, can obtain an accurate exposure interval. Obviously this automatic flash gun offers the most advantages, since it eliminates the need for the photographer to leave the darkroom and furthermore insures consistent exposures by reason of the timing control.

Screen Elevating Mechanism

The need for inserting or removing a halftone screen when alternating between line and halftone work promotes several serious hazards. First, the danger of breakage or other damage is naturally proportionate to the amount of handling the screen receives. Secondly, not only is it a time-consuming procedure but the more often a screen is moved the more apt it is to disturb the screen distance setting. To reset or check the screen distance is in itself a time-consuming task. Thirdly, through

the handling of the screen it will accumulate dust and fingermarks, which in turn have a direct influence on the halftone negatives. To over-

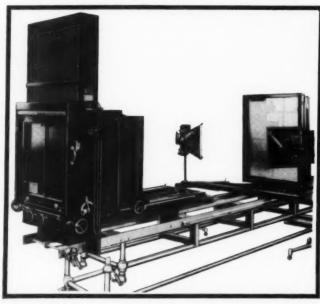


Douthitt Diaphragm Control Lens Scale

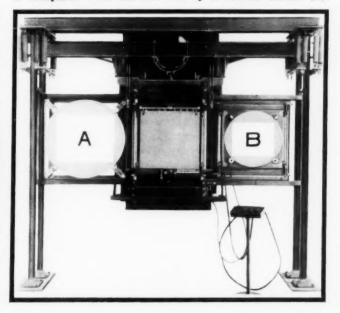
come this disturbance additional time is consumed in cleaning the screen glass surface. All of this annoyance may be eliminated by means of the screen elevating mechanism which may be had as optional equipment on most process cameras.

The screen elevating mechanism consists of a track in which the screen holder bars ride. By a turn of a crank, the halftone screen and its holder moves out of the image field in either an upward or downward direction into a rack which is called the screen storage housing. The di-

R. R. Robertson camera equipped with screen elevating mechanism by which the halftone screen may be brought into position, or removed from the image field into the screen storage housing above without disturbing the original screen distance setting.



Monotype-Huebner overhead camera equipped with sliding screen mechanism which permits two screens of different size or different line to be used as circumstances dictate. The size of a negative which may be cut by an oversize screen (A) is compared with the size cut by a normal screen (B).



rection of movement is entirely dependent upon the make of camera. This type of mechanism accomplishes a number of very important functions. In a matter of seconds, the halftone screen may be brought into position, or removed from the image field without disturbing the original screen distance setting. Since the screen mechanism moves as one unit, the entire image area is exposed, thus eliminating the need of moving the screen bars out of the way. While the screen is out of position, it rests in its own storage compartment protected from dirt and dust and damage-a very noteworthy consideration. Furthermore, the movement of the screen with such mechanism does not require any movement of the plate or film holder.

The screen elevating mechanism is almost an indispensable feature for any process camera on which combination line and halftone work or highlight negative work is contemplated. For these two applications, the ability to insert or remove the screen without disturbing the focal position of the plate or film insures accurate register of the two or more exposures on the one plate or film.

In cameras larger than 31 inches the screen elevating mechanism is usually replaced with sliding screen mechanism. With this type, the screen slides from its operating position to either left or right of the camera. With the sliding screen mechanism it is possible to provide for storage space for more than one screen, any one of which may be transferred to its proper position within the camera.

Camera Backs

There are three types of backs available with most process cameras. They are stay-flat, plate and vacuum. The stay-flat and vacuum backs may be obtained which either swing from either side of the camera or are of the tilting type. The plate back may be obtained in either the swinging and tilting type as well as the stationary type attached to the camera back.

The stay-flat back is suitable only for films. Although it is possible to hold glass plates of small dimensions on a stay-flat back, it is, however, very impractical. It is also not feasible to use paper negatives on a stay-flat back because the stayflat coating will pick off the lint from the paper, necessitating a very frequent renewal of the stay-flat solution.

The vacuum back offers many advantages to shops which use both film and paper negative material, but it is not advisable for use with dry plates. The plate back is, of course, intended for use with dry or wet plates. The tilting dry plate back may be considered as the allpurpose back since it can be used for accurate register work involving plates, and by the insertion of a large glass coated with stay-flat solution it becomes a practical film holder. Obviously, this type of back is most advantageous since it can accommodate any and all of the negative materials commonly used. For the shop which has a large volume of work of a mixed nature, a combination back consisting of a swinging dry plate back and a swinging vacuum back is most feasible. The vacuum back will handle film and paper negatives at maximum speed. The plate back can accommodate wet or dry plates for color separation and other close register work. When not in use, the plate back can supplement the vacuum back. By the insertion of a ground glass within the frame of the plate back, it serves as a focussing panel when using the vacuum back.

Arc-Light Carriage

IN order to obtain uniformity of exposure, it is necessary that the distance and angle of the arc-lights from the copy remain constant at all times. With the conventional arclights, the operator must change the position of the arc-lights with every change in the copyboard position. It is not always possible to judge when each lamp at either side of the camera is exactly the same distance from the center of the copyboard and in identical angular position. When the relationship of the arclamps to the copyboard varies, negatives of uneven density will result. Since the strength of light is inversely proportionate to the distance between source of light and illuminated surface, any variation in arc-light position may also result in under-exposed or over-exposed negatives. A simple solution to this problem is the arc-light carriage which connects a pair of arc-lights to each other and to the copyboard.

Thus, the movement of the arclights is synchronized to that of the copyboard and the light distribution will remain constant. Of the many arc-light carriages available, there is no perceptible advantage in any one construction. With the exception that where uneven floor surfaces are encountered, it is advisable to get the type that has separate rails for the suspension of the lamps. In this way, there is no connection between floor and lamps to impede the travel of the lamps or for the transference of vibration to the camera bed.

Aperture Control

Whether it be for line or halftone work, the photographer will have to make very fine diaphragm settings. Since the diaphragm indicator, as supplied on most process lenses, gives only broad divisions, the photographer usually sets the lens to the intermediate points by interpolation. With such arbitrary settings, the exposure of a line negative may be wrong, whereas in halftone work the contrast and dot size of a screen negative may be out of proportion. According to accepted halftone technique, the diameter of the lens aperture must be coordinated to the distance between lens and film. If the 64 ratio is being used the change in lens aperture will be a 64th of the distance between lens and film. When the change in distance between lens and film becomes 1 inch or less, the change in lens aperture in turn becomes a 64th of an inch or less, and this is too minute a change to be made accurately by means of the lens diaphragm ring.

Various devices are available which permit infinite accuracy in lens aperture settings. In general they consist of a finely graduated dial attached to the lens board, a pointer attached to the lens diaphragm ring, and, in some cases, a veneer move-

(Turn to page 63)

Dry Stripping KODALITH TRANSPARENT STRIPPING FILM



For Accurate Register in Combination Color Work

AINTAIN practically perfect size by dry stripping Kodalith Transparent Stripping Film screen negatives or positives, after they have been cut to size while still on the film base.

This improved technique is particularly helpful in the indirect method of full-color reproduction. By making the final screen negatives or positives on Kodalith Stripping Film, combinations can be stripped up quickly and easily, with the assurance of

accurate color register. One concern turned out a combination color job recently which involved twenty-four separate color subjects, a total of ninety-six Kodalith Stripping Film negatives.

Dry stripping also facilitates the production of accurate black-and-white negatives.

Ask the Eastman demonstrator about the dry stripping technique. Kodalith Transparent Stripping Film is furnished in sheets and rolls in sizes to meet every requirement. Order a supply today from your Graphic Arts dealer.

EASTMAN KODAK COMPANY, Rochester, N. Y.



DOES THAT INTEREST YOU, MR. LITHOGRAPHER?

Well, Then, Listen to This:

Last month Modern Lithography made arrangements with the leading national association of industrial editors to conduct an educational campaign among its members on lithography, and what lithography could do for them in publishing an employee magazine. From a questionnaire circulated among editors and officials in the association charged with the responsibility of publishing employee magazines it was learned that many were in the dark about lithography and would like more information about the process. Hence the need for an educational program of some kind became quite evident if lithography was to make any sort of progress in this field.

MODERN LITHOGRAPHY 254 W. 31st Street, New York City

Gentlemen:

I am interested in learning more about the Employee Publications Field as a market for lithography, and wish to cooperate in an educational campaign directed towards editors of employee publications.

Name	
Company	Title

Therefore, as the first step in formulating such a program of education, Modern Lithography arranged for a speaker to address the national association of industrial editors referred to at its annual convention in Philadelphia last month on the subject of "Lithography and Its Place in the Employee Publication Field." Following the talk there was a lively question and answer period and the entire meeting went over with a bang. And while the editors were delighted with what they heard, this was only the first feeble step towards the comprehensive program which, we feel, is needed. Much, much more educational work remains to be done in the employee publication field.

May we suggest, therefore, that individual lithographers read the article in this issue beginning on page 31 and then if they decide that they are interested in this field, would like more information about it, and would like to participate in a broad educational campaign among industrial editors, that they fill in the coupon below and send it in. Lithography has a definite, broadscale place in the employee publication field, but it is up to the individual lithographer through unselfish cooperation to develop that field as it should be developed. To that end we pledge our help.



Another in the series on offset paper by Mr. Wheelwright, editor of "Paper & Printing Digest" and author of "From Paper Mill to Pressroom."

BY WILLIAM BOND WHEELWRIGHT

MONG the shop tests for offset papers none is more important than that for picking. The crudest of these-an actual "rule of thumb" procedure—is to moisten the thumb and after pressing it hard upon the surface of a sample, suddenly remove the thumb. If the surface fibres adhere and pull away, or if the coating of enamel stock becomes detached readily, it may be considered a danger signal. Much depends upon the wetness of the thumb and the initial pressure and duration of the contact before releasing the pressure. Such a test is too uncertain to be considered conclusive; the personal equation is too variable.

A more reliable, and relatively simple test is the sealing wax test. A series of Dennison waxes numbered 1 to 34 should be obtained. These waxes are graduated in adhesive strength, number 1 having the least adhesion and number 34 the greatest. The wax, having been heated over a flame, is pressed upon the sample and given sufficient time to harden in contact with the paper. The stick of wax is then pulled free. If the surface of the paper comes off with the wax, the susceptibility to picking may be gauged according to the number of the wax. The strength

of the wax selected as necessary to test a given paper must be determined in relation to the tackiness of the ink to be used. This requires experience, or the advice of a competent ink man.

Ink Coverage Test

The proper ink coverage is important-especially in offset printing, which often by comparison with letterpress looks gray and lacks snap. Color depends both upon the tinctorial property of the ink and the degree of penetration of its oily vehicle into the body of the paper. Contrary to popular belief, rosin sizing in paper does not retard the penetration of printers' ink, although it does so with writing fluid. The reason for this difference is that rosin sizing is insoluble in water (the ink vehicle of writing fluids), but soluble in all-fixed and volatile oils. Surface sizing if made of gelatin resists both water and oil. Starch sizing, which is occasionally used both in engine and surface sizing, does not make paper water-resistant, but is used in offset papers to reduce surface fuzz. The degree of penetration of the oilvehicle of printing ink is dependent upon the closeness of the surface and porosity of the paper. When the oil penetrates too far into a sheet of

paper, it carries the coloring matter deeper and may cause show-through on the opposite side.

A practical test for ink coverage has been suggested by Gordon A. Jahans "by taking weighed quantities of the ink and a standard ink and painting (as thinly as possible) two strips of paper of equal width. The longer the strip covered, the greater the covering power of the ink. In this test the whole width of the paper strip should be covered, and the ink is best applied by laying the paper on a smooth glass and scraping the ink along it with a bone paper-knife or palette-knife. The same strip may now be used to note the rate of drying and the behavior of the ink towards the paper to be used."*

Rather than depending entirely on this shop test, it seems better in choosing ink and paper to submit samples of the proposed paper to the ink maker whose technicians are expert in testing, and to be governed by his recommendations. An ink that gives satisfactory coverage with one paper will not necessarily do so with another.

Sizing Tests

Bond papers, ledgers, writing paper and index bristol or any other stock which may eventually be required to take pen and ink may need to be tested for sizing. It is important in such an event to test both sides of the sample, more especially if it is only a beater-sized sheet. Beater-sized paper is less uniformly sized because the action of suction boxes on the under side during the making processes withdraws some of the sizing from the paper web. Sometimes this is great enough to cause feathering of the ink on one side of the sheet although on the other side the writing does not spread.

Moistening the sample is some indication of sizing strength, but a better method is to draw a series of intersecting lines in writing ink on both sides of the sheet and observe whether the distance between the lines perceptibly alters as the ink

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^{*}Paper Testing and Chemistry for Printers, by Gordon A. Jahans.



This is the fifth in a series on Platemaking by Mr. Nicholson, production manager of Ronalds Offset Lithographers, Ltd., Montreal, Canada, and author of the new book, "Photo-Offset Lithography." Mr. Nicholson will be glad to answer any questions you may have regarding Platemaking. Address your inquiries to MODERN LITHOGRAPHY.

BY DON NICHOLSON

Gum Top Deep-Etched Plates

HE following method is used for making the zinc deepetched plates that are used for printing the lithographed section of the Canadian magazine New World. This is a monthly magazine with a run of one hundred and twenty thousand. A fine grained zinc plate is used. The grain should be fine and deep. This is necessary for good press working, since the image is etched into the plate and its sharpness depends very much on the fineness of the grain of the plate. The usual care is used in selecting a plate without kinks or bumps and this plate is scrubbed thoroughly in the sink until perfectly clean. It is not necessary to counter-etch or pre-etch the plate unless there is some doubt as to its cleanliness when coming from the plate grainer. The writer makes a common practice, however, of counter-etching with a weak solution of hydrochloric acid, one ounce of hydrochloric acid to one gallon of water. It is not wise to use a strong counter-etch as it will take off too much of the grain. Then, too, if it is counter-etched too strongly all of the extraneous metal may not be

scrubbed off in spite of the care taken. The plate is scrubbed again after counter-etching. It is then fastened in the whirler while still wet and the whirler is started. The plate should be then flushed with a beaker of water, and before the water is completely sluiced off the plate is coated with the following solution:

Ammonium Dichromate, 14 Bé, 8½ ounces (stock solution).

Gum Arabic, 14 Bé, 24 ounces.

The Ammonium Dichromate is kept in stock solution for convenient use, and the Gum Arabic solution is the same one recommended in last month's article. The gum and the dichromate solutions should be put together in a dark bottle and allowed to stand overnight. The solution is, of course, filtered before placing it into the pouring vessel, and it should be poured through a cheesecloth to the plate surface. The conditions controlling the speed of the whirler are the same as those recommended in a previous article on albumen top plates. The speed of the whirler is not slowed down for coating the plate, as is the case with some deepetched coatings.

When the plate is dry, it is light sensitive, and should be handled in an orange light. It is placed face down on a clean sheet of paper and the back wiped dry. It is then placed in the vacuum frame or photo composing machine with the positive flat in position, and after the vacuum is put on the plate is exposed. The writer uses two minutes exposure with a double carbon arc lamp at forty inches. This will have to be varied to suit different kinds of equipment but, the exposure should be near two minutes.

The plate is taken from the frame or photo composing machine after exposing and staged. That is, the spots or parts of work which are not wanted are painted in with orange shellac. As it is still light sensitive, all work, until it is ready for asphalting, should be done under an orange light. After the staging is dry the plate is developed on the table with 40° Be´ solution of calcium chloride containing 8% Lactic Acid C. P.

The developer is spread over the plate thoroughly and is worked with a developing pad made of a piece of carpet tacked to a block about eight inches square with a handle for gripping it firmly. The plate is developed until the image freely gives off white bubbles. The excess developer is squeezed off, and more developer is flowed on the plate and worked with a pad for the length of time required for the bubbles to reappear. The excess developer is then squeezed off and the plate washed out five times with water-free alcohol, using absorbent paper napkins to do the wiping and cleaning. This will give a reversed image but if a deeper etch is required, 1% hydrocloric acid and 1% of a 25% solution of perchloride of iron is added to the 40° Be calcium chloride solution, and the plate is etched as deeply as is desired after the development is completed.

After the plate has been thoroughly cleaned with alcohol, asphaltum is flowed on the plate and rubbed dry. If desired, a plate lacquer may be applied first as a base for the asphaltum, but it is not necessary. After the asphaltum is applied, and rubbed dry, developing ink is flowed

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A RABBIT'S FOOT FOR LUCK

Luck is a factor in every business venture. We feel that we are lucky in being able to make and maintain pleasant business relations with lithographers large and small from Maine to California. We know that the Pitman organization, with thirty-five years of graphic arts experience behind it, is now in a better position than ever to offer the utmost in intelligent service. Why not try your luck with Pitman?

HAROLD M. PITMAN CO.

LITHOGRAPHIC EQUIPMENT AND SUPPLY DIVISION

PITMAN IN POSITION TO SUPPLY MOST PHOTO-LITHO NEEDS

The Harold M. Pitman Company, which is now in its thirty-fifth year of service to the Graphic Arts Industries, carries a complete line of chemicals, equipment, and supplies for photo-lithographers. This Company has factories and distribution centers in Chicago, Jersey City, Los Angeles, and Toronto and is therefore in a position to make prompt shipments to all parts of the United States and Canada.

Many items which Pitman supplies, such as steel T-squares, stripping knives, and rubber cement, are useful to the layout man before the work even reaches the camera. ¶ In the line of camera equipment, this firm sells cameras, lenses, screens, arc lamps, flashing lamps, and a variety of accessories designed to make camera work easier and quicker. ¶ For the dark room, Pitman provides safe lights, focussing magnifiers, screen separation gauges, trays, film, and all developing and fixing chemicals. An especially interesting development is the Pitman Film Cabinet which in addition to the handy cutting knife has storage space for more than a gross each of film in sizes from 8x10 to 20x24.

The Pitman Organization has been noted for its developments in the plate making departments. Equipment supplied includes whirlers, printing frames, printing lamps, and light tables. ¶ It is in the field of chemical specialties, however, that this firm has been recognized as most progressive. The Pitman Deep Etch Process was the first modern deep etch method to gain acceptance in this country. In spite of many imitations, this process is accepted today

as the standard against which others are compared. The Pitman Company is justly proud of the fact that after ten years of marketing its Deep Etch Process no significant improvement has been made which was not anticipated by its research men and given to the lithographers of the country years in advance. ¶ Other Pitman Processes which have helped make the lithographer's lot a happier one include the Bluprint, Glasprint, and Metalprint processes and the U. V. Albumin and Albumin Solution for surface plates.

These names are familiar to many lithographers as the products mentioned have a very wide use. ¶ The Bluprint Process is used as an aid to stripping. Merely by dissolving the Bluprint Powder and coating the resulting solution on a sheet of glass, the stripper can make an accurate record in blue of any flat. This blue glass carries a picture of the flat which is exactly the correct size. Negatives can be stripped directly on this glass for additional colors which must register. The color of the blue glass does not hold back the light when the exposure to the plate is made. ¶ The Metalprint Process does the same job on plates and the blue image obtained is a perfect guide for tusch work. The blue image does not print. ¶ The Glasprint Process is used to make contact positives and negatives. The process can be handled in ordinary light, the exposure being made in the printing frame with the arc lamp. This process offers an economical and accurate method of making duplicate negatives and positives. The resulting print can be stripped. ¶ The U. V. Albumin

Process is a method of making surface plates of great strength. The sensitive coating solution can be made up fresh in a few minutes. This process is especially valuable in regions where humidity is a factor. The Albumin Solution is much appreciated for its convenience and economy. The solution is always ready for use and never spoils. Lithographers report that plates made from the Pitman Albumin Solution develop cleaner and run longer on the press than when freshly dissolved albumin scales are used.

In addition to the proprietary processes, the Pitman Company carries the common and many of the uncommon plate room chemicals and supplies. Scotch tape, gum arabic, egg albumin, ammonium bichromate, and phosphoric acid are good examples. All chemicals are purchased with the utmost care for use in the graphic arts exclusively. Packages are used which offer protection to the chemicals and convenience to the user.

Pitman products are also well known in the press room. ¶ Pitman Fountain Solution, Double Strength is gaining friends every day. Pitman Gum Arabic Solution is convenient, economical, and never spoils. Gum sponges; Scotch stones, blankets, molletons serve to illustrate the variety of supplies available.

A letter or phone call to any of the Pitman branches will bring a prompt reply. If it is for Lithographers, Pitman has it. There are four conveniently located outlets for Pitman Lithographic Products. In Chicago, Harold M. Pitman Company, 51st Avenue & 33rd Street. In Jersey City, Harold M. Pitman Company, 150 Bay St. In Los Angeles, G. Gennert, 1153 Wall Street. In Toronto, Latimer Limited, 90 Niagara Street.

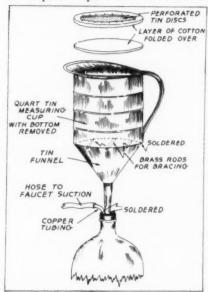
Desensitizing Litho Plates With Chromium Sulphate Solution and Gum Arabic

BY FRANK WOOD

IT SEEMS that when a person finds something new, or a better way of doing a process in lithography, the first thing he does is to get a patent on the procedure. The result is that the average worker does not get the benefit of the process unless he buys that particular product. And then he is never sure of the result, for if something goes wrong he does not know what the solution contains or how to correct it.

There have been numerous articles written on the desensitization of lithographic plates and many of them are quite practical. One of the most advocated processes for desensitizing a lithographic plate is the one which the Lithographic Technical Foundation advises, and is a patented formula. This process utilizes a hardened gum resist which is applied to the plate after exposure and development. In my opinion, the principal objection to this process, or like processes, is the length of time that is taken to process the plate. One has to expose the plate to the action of the arc light for the second time in order to harden the coating and it takes practically the same length of time as the original treatment, if not longer.

Now in the process described here a similar purpose is achieved, but is much faster in the method of application. I have noticed that when a solution of chromium chloride or chromium sulphate is added to gum arabic solution, that the gum arabic will soon jell. When this solution is applied to a lithographic plate and allowed to dry, a tanning action takes place and the gum will not lift from the grain of the plate. This tanned gum will stand the action of sodium or potassium hydroxide, and acids will not have much effect upon it. The hardness of this resist seems to depend upon the amount of



chromium solution that is added to the gum. Since this tanned gum will not lift from the plate it acts as a water carrying agent, and, therefore, protects the plate from picking up ink from the ink rollers, thereby causing ink tinting. It also seals the plate from oxidization scum.

A recommended working solution is:—Mix one part of chromium sulphate in five parts of water as a stock solution. Take 50cc. of gum and 10cc. of chromium stock solution and dilute with from 10-15cc. of water. Apply to the lithographic plate just after developing and etching with a dichromated phosphoric acid etch. Apply this chromium gum solution and rub down thoroughly.

Fan the plate dry and then wash in running water for a minute or two and proceed to gum the plate in the regular way and it is ready for the press. (Note:—use washed cheese cloth for rubbing down the application in order to keep lint from being imbedded in the coating.)

Keep the stock solution of chromium sulphate in a dark brown bottle away from the direct rays of bright light and after mixing with the gum arabic solution, use immediately, as the combined solutions will not keep for any length of time. Since such a small amount is required for the covering of a plate it is better to mix only as needed.

The gum should test 14° Bé and be free from pieces of sand, dirt and bark. A good method of straining or filtering the gum is shown in the accompanying drawing. If the gum contains impurities such as those listed there will not be a complete coverage of the plate and this will cause parts to be unprotected.

When a plate is protected as described it may be washed with water and fanned dry, then while the press is running, the ink rollers may be let down on the plate and inked solid, then with the aid of a wet sponge the ink will lift and return to the ink rollers. This procedure may be repeated time and again without the plate showing any signs of ink tinting, and greatly increased runs are obtainable, especially from a surface coated plate, and plates placed under asphaltum for preserving clean readily.

Offset Platemaking

(from page 42)

on and rubbed down dry and the plate is then chalked.

The plate is then placed in the sink and developed under running warm water with a stiff brush. After it is cleaned it is gummed in the usual manner and is ready for the pressman after the back has been cleaned and wiped dry. It is not necessary to etch except when the plate has been cleaned with Scotch stone or other abrasives.

The next article will discuss corrections on deep-etched plates.

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Sedium Sulphite Anhydrous Photo

PHILIP A. HUNT COMPANY

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This is a regular department conducted by Mr. Martin, of the Harold M. Pitman Company, in which technical books, articles, papers and similar literature of interest to the lithographic industry are reviewed and discussed. It is intended as a supplement to the Lithographic Abstracts prepared by the Research Department of the Lithographic Technical Foundation, Inc.

BY KENNETH W. MARTIN

AST month we wrote about focussing scales and lenses. We pointed out that focussing could be done mechanically by placing the lens and copy in the proper position in relation to the negative and that knowing the degree of enlargement or reduction required, the camera operator could set his camera properly without ever seeing an image in the ground glass. We also remarked that while it would be very convenient to be able to use a short focus lens with a short camera body for all work, the lack of covering power of process lenses makes this impractical.

Scale focussing requires the use of a glass-covered copy-board or similar device to make sure that the surface of the copy is always in the correct position. The glass-covered copyboard idea is a good deal less than perfect as the presence of a sheet of glass between the copy and the lens offers a place for dust to collect. This dust will show up on the negative and will have to be opaqued out. Some progress has been made in the design and construction of vacuum copyboards which hold the copy flat by means of suction. However, this type of board is effective only with

thin, flexible copy. Glass-covered boards with spring backs with enough "give" to take copy up to an inch or so in thickness are by far the most common types of copyboards in use today. The copy is pressed against the under surface of the covering glass and thus no matter how thick the copy is, the surface to be photo-

graphed is always in the same position relative to the focussing scales.

Just in case you might be interested in how focussing scales can be constructed, we are indebted to an article in Photo Technique. Written by L. E. Jones and appearing in the February 1941 issue, the article discusses chiefly the use of supplementary lenses for hand cameras. However, Mr. Jones gives a chart showing how the corresponding image and object distances can be determined with a minimum of figuring. Such a chart is commonly used for engineering applications and goes under the general name of "Nomogram." The nomogram for any common process lens is shown in Figure 1.

To use this chart, it should be laid out just as large as possible. If a good sized floor is available, the chart should be laid out to the same size as the final scales. If this is done, the line O-X would need to be nearly 10 feet long and the line O-Y at least 6. The lines O-X and O-Y must be drawn at exact right angles. This can be done by making O-X 8 feet long and O-Y 6 feet long. When they are at exact right angles, the straight line between X and Y will be exactly 10 feet long. The line O-Z must now be drawn at exactly 45° to O-X and O-Y. The point C on the line O-Z must be

Fig. 1





FOR YOUR EXACTING REQUIREMENTS DEFENDER OFFERS...

DEFENDER LITHO FILM—an orthochromatic emulsion coated on a non-halation safety base—with high resolving power and contrast for efficient halftone and line reproduction.

DEFENDER LITHO TRANSPARENT—an orthochromatic emulsion coated on a non-halation semi-transparent water proof paper base. For economy in lithographic line negative work.

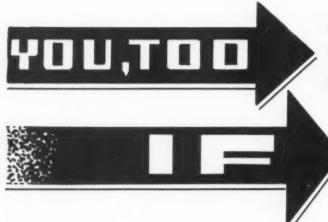
DEFENDER LITHO NEGATIVE PAPER—an orthochromatic paper of particular interest to the photo-lithographer.

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DEFENDER LITHO DEVELOPER 7-D—Available in convenient ready-to-mix form.

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Defender PHOTO SUPPLY CO., INC.



can get longer life from your plates and better quality reproduction.

you come to us for your plate graining.

When many of our customers first came to us for their graining requirements, they were greatly surprised with the longer life and better quality reproduction they obtained from plates grained by our organization. Now they accept these results as a matter of course because our rigid standards assure that every plate is exactly right. Our modern equipment, up-to-date methods and highly skilled personnel result in a finer and deeper grain, the secret of longer life and better reproductions. Volume production enables us to do superior work at no higher prices than you pay for the average regrain job.

Start to enjoy the advantages of our service. Write for a quotation on your next graining job.



JAMES S. HIPER BLDG. CHICAGO 913 W. VAN BUREN ST.

46

% of size	n	$\frac{1}{n}$	$(\frac{1}{n}+1)$	$(\frac{1}{n}+1) \times 18$	
100	1.00 1.00	2.00	36.00	or 36.	
99	1.01	.99	1.99	35.82	$35\frac{52}{6}$
98	1.02	.98	1.98	35.64	$35\frac{41}{64}$
97	1.03	.97	1.97	35.46	$35\frac{29}{6}$
96	1.04	.96	1.96	35.28	35 6
95	1.05	. 95	1.95	35.10	356
94	1.06	.94	1.94	34.92	34 5
93	1.08	.93	1.93	34.74	$34\frac{47}{64}$
92	1.09	.92	1.92	34.56	$34\frac{36}{64}$
91	1.10	.91	1.91	34.38	$34\frac{24}{6}$
90	1.11	.90	1.90	34.20	$34\frac{13}{64}$
80	1.25	.80	1.80	32.40	$32\frac{26}{64}$
70	1.43	.70	1.70	30.60	$30\frac{38}{64}$

Figure 2

exactly the focal length of your lens distant from both O-X and O-Y or 1.414 times the focal length of your lens laid out along the line O-Z. The focal length of your lens will not be exactly the value engraved on the mount. Some lenses come in a case with the focal length given to three decimal places. If your lens is manufactured in this country, you may be able to write for the information to the manufacturer giving the number of the lens. The Bureau of Standards in Washington will determine the exact focal length of a lens for a fee. Or, you may be able to determine the focal length yourself by focussing the camera to exact same size, measuring the distance from the surface of the ground glass to the surface of the copy, and dividing that distance by four.

In order to understand what is to be done next, you should go back to the March issue of Modern Lithography where this series began. Use the equation for b which reads:

$$b = (\frac{1}{n} + 1) \times f$$

when b = distance from negative to lens n = size of copy divided by size

of negative f = focal length of lens

For example, for half size with a lens of exact 18" focal length;

$$b = (\frac{1}{2} + 1) \times 18$$

= $\frac{1}{2} \times 18$
= 27

This means that at half size with this lens, the distance from lens to negative is 27 inches. At ½ of size, the equation would read:

$$b = (\frac{1}{3} + 1) \times 18$$

= $\frac{1}{3} \times 18$
= 24

In order to make a complete set of focussing scales, it would be necessary to calculate all the values of b for the range required. Usually steps of .01 size are all that are necessary. Using this system, a $\frac{1}{2}$ reduction would be .50 size, a $\frac{2}{3}$ reduction would be .33 size, and so on. The table in Figure 2 gives the values of b from same size to .70 size. A calculating machine is a great help in making these calculations.

Actually, it is only necessary to make one or two of the calculations because you will notice that the distance between 100% and 90% and that between 90% and 80% is exactly the same. That means that the lens moves in a regular way towards or away from the negative. However, the copyboard movement is irregular and would have to be calculated for each per cent of re-

duction if it were not for the chart given in Figure 1.

To use the chart, find the value of b on the line O-Y. This is the lens-to-negative distance just calculated. Draw a straight line through this point and through point C. Where this line meets O-X is the position of the copyboard for that particular reduction. If, as suggested, the chart is laid out to full camera size, the points can be plotted on paper or metal strips and then these strips attached directly to the camera.

The dotted lines in Figure 1 show how the points for same size and 50% reduction, are obtained.

Entertains Chicago Club

Members of the Chicago Lithographers Club were the guests of Leonard Knopf, president of the Meyercord Co., Chicago decalcomania manufacturer, at a dinner held in the company's plant last month. The party was conducted through the plant after dinner and was shown how decalcomanias are produced. The affair was the club's last meeting until next fall.

Wins Scholarship

Virginia Edlington, of the Lithographers National Association, New York, was awarded a \$100 scholarship last month for the best advertising campaign submitted by students of the 12th Annual Survey of Advertising Course in a competition conducted by Advertising Women of New York, Inc. Awards were made at a graduation dinner held at the New York Advertising Club. H. A. Speckman of McCandlish Lithograph Corp., Philadelphia, presented handsome lithographs to each of the six honorable mention winners.

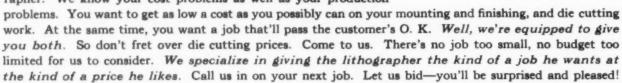
Craftsmen Hear Spicher

Craig R. Spicher, Miehle Printing Press & Mfg. Co., Chicago, addressed the Chicago Club of Printing House Craftsmen at its regular meeting last month. Mr. Spicher, who is technical research director of the Miehle Company and a former instructor at Carnegie Institute of Technology, discussed "What a Printing Executive Should Know About Presswork."

If it's Price that's worrying you Stop Worrying

Stop Worrying Right Now!

We've been in the die cutting, and the mounting and finishing business for 22 years. We know what you're up against, Mr. Lithographer. We know your cost problems as well as your production





155 Sixth Avenue, New York, N. Y.

a man is Known BY THE COMPANY HE KEEPS

AND SO IS A LITHOGRAPHER KNOWN BY THE INK HE USES

For nearly half a century members of the Lithographers National Association, now gathered in annual convention at the Greenbrier, White Sulphur Springs, have used ROOSEN LITHOGRAPHIC INKS. We are proud of that fact, and proud to once again this year extend our greetings to this oldest Trade Association in the Lithographic Industry. We hope our long association continues.

We think it will. Lithographers realize that nothing so affects the quality of the finished lithographed product as the Ink. The fact that ROOSEN LITHOGRAPHIC INKS have been used by quality-minded lithographers for nearly half a century is strong testimony of their dependability and solid reputation. There are long years of experience back of every litho ink in the ROOSEN line, plus the latest trends from laboratory research.

H. D. ROOSEN COMPANY

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IN AND ABOUT THE TRADE

LNA Moves

The Lithographers National Association, has moved its offices from 295 Madison Avenue, New York, to the Graybar Building, 420 Lexington Ave., New York.

C. Arthur Speakman Dies

C. Arthur Speakman, 71, former vice-president of the American Lithograph Co., died of a heart attack last month. He retired in 1931 from the American Lithograph Co. after thirty-five years service with the firm.

P. N. A. to Meet Oct. 3-4

The annual convention of the Printers National Association will be held October 3 and 4 at the Greenbrier Hotel, White Sulphur Springs, W. Va., it was announced by the association's executive committee at a meeting in Atlantic City last month.

P. P. A. I. Appoints Jones

Lincoln Jones, consumer market counsel, has been appointed Director of Research of the Point-of-Purchase Advertising Institute, according to an announcement last month by Lloyd L. Grisamore, of Arvey Corp., Chicago, president of the organization. Mr. Jones was formerly associated with Consolidated Cigar Corp.; Stanley E. Gunnison, advertising agency; John H. Perry Dailies; and National Trade Journals, Inc. For the past few years he has been engaged in original research work in consumer markets and retail distribution.

Edward T. Sajous, executive secretary of the Institute, stated that "with the appointment of Mr. Jones as research director, Point-of-Purchase Advertising Institute will inaugurate a program of original field research into the various activities and phases of this medium, including display evaluation for sales response, reader observation and identification, and other features of point-of-purchase advertising of interest to advertising

manufacturers using display material." The program, Mr. Sajous announced, is being formulated with the cooperation of the Display Committee of the Association of National Advertisers, under the chairmanship of Carleton Healy, advertising manager of Hiram Walker, Inc., who is also a member of the Board of Directors of the Point-of-Purchase Advertising Institute.

Bandits Rob R. R. Donnelley

R. R. Donnelley & Sons Co., Chicago, was robbed of \$4,000 last month when four masked bandits raided the cashier's cage and held 100 employees, including 75 women, at the point of a gun.

Adds Four New Presses

Wolff Printing Co., St. Louis, has just installed one four-color and three single-color Harris presses, to replace three older units. As a result of the addition of the new equipment, the company is now the largest lithographic producer between Chicago and the West Coast.

C. H. McGill Dies

C. H. McGill, 75, founder and president of McGill Lithograph Co., St. Paul, Minn., died last month.

Plan NAPL Convention Exhibits

A substantial number of lithographic equipment and supply companies are planning to exhibit at the ninth annual convention of the National Association of Photo-Lithographers, to be held at the Netherland Plaza Hotel, Cincinnati, Ohio, September 18, 19 and 20, according to an announcement by Walter E. Soderstrom, executive secretary. Those who have already reserved space are Agfa Ansco, Champion Paper and Fibre Co., Dayton Rubber Manufacturing Co., Eastman Kodak Co., Fuchs & Lang Manufacturing Co., Division of General Printing Ink Corp., Hammer Dry Plate & Film Co., Merck & Co., Rapid Roller Co., Rutherford Machinery Co., Division of General Printing Ink Corp., Sinclair & Valentine Co. and Vandercook and Sons.

A. R. McCandlish, president of McCandlish Lithograph Corp., Philadelphia, holds the sketch selected by the jurors for first prize award in the 1941 McCandlish poster design contest. The winner, Robert Hold (insert) was awarded \$500. The jurors were: top row, left to right: E. McKnight Kauffer, Mr. McCandlish, J. O. Carson; bottom row: John R. Minten, Raymond A. Ballinger, and Mark Seelen.



Carnegie Tech Students Lithograph Weekly Paper

New News Sheet, 75% Pix, Mirrors Campus Hi Jinks As in the Flesh

OWN at Carnegie Tech, in Pittsburgh, the students have got a new sheet on the campus. It's called The Cut and they are mostly agog over it. In candid, open language—the language of news photos-all the dirt is dished out weekly in pictures, pictures of the highest eloquence and truth. For reporting the news-who was seen with whom last week, who's carrying the torch for whom else this week. etc., etc., The Cut is far and away the honestest, most rag-tag and bobtail down-to-earth campus paper being published today. It is what it set out to be-an honest reflection of life on a U.S. college campus in the year 1941.

All of this has been made possible largely by offset-lithography.

But let Dave Ellis, editor-in-chief of *The Cut*, and the moving force behind the project, tell about his favorite newspaper in his own words:

"Tech needed a pictorial weekly on the campus," Mr. Ellis told Modern Lithography's reporter. "And, as the front page editorial on our first issue puts it, 'Carnegie Tech, the first college to do so, made a weekly pictorial possible by using offset-lithography to present the news, and the news behind the news so you can see what is going on instead of having to read about it.' Thus," added Mr. Ellis facetiously, "the great illiterate masses at Tech can for the first time enjoy comprehensible news.

"We chose offset-lithography for the printing of our weekly," said Mr. Ellis, in a more serious vein, "because we found it to be less expensive, better enabling us to break even financially. We are not interested in making money. Secondly, it provides the means for printing as many pictures as we wish at one



cost price. Lastly, with offset, and by using the paste-up process, we are better able to judge beforehand the final appearance of *The Cut*."

Lithographed in black and white, The Cut requires 11 hours to produce, counting paste-up, platemaking and presswork. It is a four-page paper, carries about 75 per cent news pictures, about 16 per cent advertising and the remainder straight copy, mostly captions. It is tabloid size in format, measuring 11 x 17 inches.

"In putting out the paper, we here at Tech do all of the reporting, of course," said Mr. Ellis. "We also varitype the typewritten material, take all of our own photographs and make the paste-ups."

Work on taking pictures, reporting

and writing up the copy begins on Wednesday and continues right up to time of publication, according to Mr. Ellis. A corps of students edits and prepares the copy for the varityper in six hours. At first the students paid \$9 an issue to have the varityping done outside. Now, however, they have their own machine and by doing the work themselves have reduced the cost to \$3 an issue. By doing this work themselves they are also enabled at the last minute to stick in a late news story, if one should pop. Making the paste-up dummy requires another six hours. The plates are made by the lithographer. A 70 lb. offset stock is used.

"In publishing the paper," explained Mr. Ellis, "we had to overcome a few major difficulties. First, we had to find an inexpensive way to produce our type, and, while linotype may give a better reproduction than varitype, it is essentially a letterpress type and not easily used for captions for pictures. Further, to use the linotype would be expensive. So after considering many possibilities we selected the varityper. With it and by purchasing our own machine, the cost per issue of The Cut for type matter has been reduced to about \$3.

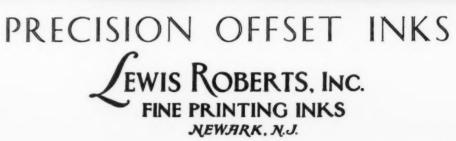
"Secondly," continued Mr. Ellis, "in an effort to reduce costs we phototype our large heads. Instead of phototyping, we might have used the linotype, but again we would have had excessive costs. With phototype we do the work ourselves and can change heads at the last minute.

"Thirdly, our pictures presented a problem because they came in from many different students who presented us with many different sizes of pictures and many different kinds of film. The setting up of this miscellany required considerable copying and reducing work, and in copying the pictures, we lost some of their quality. Now a professional does all developing, reducing, enlarging and copying.

"On our advertising," said Mr. Ellis, "artists do all of the work. Thus we avoid the cost of setting up an ad. Further we save money on

(Turn to page 53)





Litho-Sheen

A New Development That Gives
Life Sharpness Snap

to

OFFSET INKS

[NOT A COMPOUND OR VARNISH]

For Blacks, Colors and Tints

Write For Full Information

LEWIS ROBERTS, INC.
FINE PRINTING INKS
NEWARK, N.J.

Baltimore Boston Chicago Columbus Denver Detroit New York
Los Angeles
Louisville

Minneapolis Nashville Greensboro Pittsburgh Omaha Rochester

Washington Tulsa

Wichita

Manufacturers of Precision Offset Inks

Coast Exhibition Gives Big Play to Lithography

"Pictures at Work," First Art Directors' Show West of Chicago, Includes Many Lithographed Subjects.

ADVERTISING art, which, of course, includes lithography, achieved recognition as a potent business and cultural influence in San Francisco last month with the opening of a San Francisco Art Directors' Show, "Pictures at Work," in the San Francisco Museum of Art—an institution comparable in approach, though not in size, to the Museum of Modern Art in New York.

"Pictures at Work" has a number of unique features. It marks what is probably the first introduction of an actual twenty-four sheet lithographed poster into an art gallery. One wall of the South Gallery of the Museum, where the show opened April 15, and ran to May 7, was devoted to a current Leslie Salt 24-sheet poster lithographed by Gugler Lithographing Company. The artist was Willard Cox, associated with Logan and Cox of San Francisco. An actual billboard was used, set up on a "lawn" of very convincing "grass." Alongside of the twenty-four sheet lithographed reproduction was Cox's original drawing.

Another unique feature of the show was that, in addition to the original art work and the finished commercial reproduction, the technical progression of methods of reproduction was shown. For the first time, art gallery visitors could study the successive stages in the production of a lithograph, of a black and white halftone, of silk screen, and of four-color halftones. To complete the advertising art presentation, there was an exhibit of the stages of production of a radio transcription from script to finished

record, with illustrative photographs.

Most prominent space was given to the methods of reproduction of a modern lithograph. Chosen for the national reputation being represented with about 150 pieces of advertising art produced by the leading and best known artists.

Maynard Dixon was represented with the original oil for a Wells Fargo calendar; Fred Ludekins, whose work for the Southern Pacific Railroad and other advertisers is well known; Lonnie Bee, who has done the originals for Regal Pale Beer and Lucerne Milk posters; Haines Hall, of Patterson & Hall Art Service, whose work for Rosenberg Bros., dried fruit, has occasioned comment; Maurice Logan, Logan & Cox, represented with the original for an Italian-Swiss Colony twenty-four sheet lithographed wine poster;



exhibit was an American President Line menu card by Amado Gonzales, lithographed by Stecher-Traung for Lord & Thomas advertising agency under the art direction of Ray Bethers. This is an eight-color offset reproduction and the technical progression was shown in pairs of colors as well as in single colors, in addition to a glass negative and an aluminum plate, completing the exhibit with the finished lithograph. This was regarded as a particularly fine piece of work, distinguished for fidelity to detail and clarity and sharpness of color.

All of the important advertising agencies in San Francisco were invited to submit entries, twelve of Ray Bethers, Art Director at Lord & Thomas, two of whose station posters for Southern Pacific Railway were included; Robert Windrem, a youthful and talented artist, "find" of Ray Bethers, samples of whose very original and modern work was shown; Francis Todhunter, associated with McCann-Erickson, whose Lucky Lager sphinx poster in miniature was on exhibition; Willard Cox, with an Olympia Beer piece for twenty-four-sheeter destined for lithograph reproduction, and many others.

Three of the outstanding original art pieces shown were by Georgia O'Keefe, Miguel Covarrubias, and Pierre Roy, all three of whom were

RELIABLE LITHOGRAPHIC PLATE CO., Inc.

The Pioneer Plate Grainers of America

ALL PLATES

INCLUDING THOSE REGRAINED FOR MULTILITH

ARE MARBLE GRAINED part of our name. It means to our customers that our plates can be depended on to give first-class results because from start to finish the graining is handled by experts of long experience. Our plates are made right to work right—they are reliable!

We carry a full supply of Zinc and Aluminum Sheets for Offset, Rotaprint Presses, in fact for all the lithograph trade. MILL
SELECTED
METAL
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EXCLUSIVELY

(MADE IN U.S.A.)

A trial order should "sell" you our services and products.

RELIABLE LITHOGRAPHIC PLATE CO., INC.

INCORPORATED 1916

17-27 Vandewater St. and 45 Rose St., New York, N. Y. • Phone: BEekman 3-4531

How Is Your Operating Efficiency?

That's the important question with which lithographers are concerned right now. And well it might be. For with all industry on the march—the lithographic industry along with the rest—break-downs, shut-downs, delays for OK's, etc., for whatever cause must not be tolerated.

If you are having trouble with grey tones in halftone copy, causing unnecessary delays in the pressroom—and possibly annoying a good customer—we urge you to try ECLIPSE DEEP-SET BLACK without the loss of another moment. It is so unnecessary to have trouble with your blacks. Use ECLIPSE. It has been tested by craftsmen everywhere. Improve your operating efficiency today by using ECLIPSE DEEP-SET BLACK on every job!



TRY ECLIPSE ON YOUR NEXT RUN AND BE CONVINCED

GAETJENS, BERGER & WIRTH, Inc.

35 York St., Brooklyn, N. Y. 538 S. Clark St., Chicago, Il.

represented with originals done for the Hawaiian Pineapple Company, Ltd., entered by the advertising agency of N. W. Ayer & Sons. The O'Keefe was an oil of a pineapple bud, the Covarrubias a six-foot jungle scene used as background for one of the Dole magazine advertisements; the Pierre Roy-probably the most distinguished art entry of the show,-a "Hawaiian Window" done in oils. Roy was sent from France to Hawaii to produce this still life into which a glass of Dole pineapple juice is cleverly introduced. The advertising reproduced from the original art pieces was shown along-

Calculated to attract considerable interest were the entries of Stanford-California and Stanford-Southern California football program covers done by the artist, Frank Stauffacher, reproduced by Crocker-Union by offset lithography. Another interesting Crocker-Union piece was the original and the finished lithograph of the now well-known Magnolia still life calendar.

This is the first show of its kind to be held in San Francisco and Ray Bethers, who originated the idea and was chiefly responsible for it becoming a fact, believes it to be the first to be held West of Chicago. Out of it, he hopes, will emerge an Art Directors' Club for San Francisco, with annual presentations of advertising art. This was the primary object of "Pictures at Work." Another aim was to let San Francisco discover how much "national" advertising art is produced here, and also to make the general public advertising art conscious, at the same time introducing the educational aspect with the accompanying exhibit of methods of reproduction.

Tauber's Bookbindery Moves

Tauber's Bookbindery, Inc., New York, formerly located at 238 William Street, moved last month to 200 Hudson Street. The company now occupies 30,000 square feet of floor space. New equipment has been added and fluorescent lighting installed in the office and factory. Rudolph Tauber is president of the company.

Students Lithograph Paper

(from page 50)

our ads by using offset, because no plates are necessary for art work. Students do the art work themselves, and we charge advertisers an extra amount for the work on their ads. Of that price the artist receives 90% and *The Cut* collects 10%. Students do regular-type ads free-of-charge. Emerson Press, Pittsburgh, does our lithographing on a 35 x 45 Harris offset press."

Reaction to *The Cut* has proven very favorable, according to Mr. Ellis. The Carnegie Tech faculty thinks it is one of the best ideas to come out on the campus in years.

"So far," says Mr. Ellis, "we have not reached many Alumni, but the Tech student body welcomes the paper as a relief from 'straight copy.' Our large subscription sales and single-copy sales have run higher than we had anticipated and attest to the popularity of the paper. We expect to maintain 1500 circulation."

LTF Issues Annual Report

The Lithographic Technical Foundation, Inc., New York, has just issued its annual report on activities of its Educational and Research Departments for the year ended April 1, 1941. In the field of research, the Foundation reports widespread interest in the Inkometer, which it has developed for measuring the tack and length of ink; improvements in methods of paper conditioning, which were developed by the U.S. Bureau of Standards and described in Technical Bulletin No. 3; progress in the study of variables in litho ink drying; progress in work on the improvement of halftone reproductions; and new developments in connection with the Foundation's deep-etch process, described in supplement No. 2 to Research Bulletin No. 9, covering addition of coloring matter to the dichromated gum coating solution to improve contrast of the developed image, a deep etching solution for aluminum plates said to be proof against "burning" of the plate, and a formula for nonstaining deep-etching solution for zinc plates.

The Research Department also reports that it has made arrange-

ments for the manufacture of standardized LTF chemicals by a chemical house under the supervision of the Research Laboratory. The products will be retailed by established lithographic supply houses, it is announced.

In the Department of Education the Foundation reports that the year just ended has been a banner year. More courses were offered and more companies and employees were served than ever before. Some 261 firms and 937 employees received instruction in the year just ended, compared with 194 firms and 561 employees the previous year, an increase of 70%. For the first time courses were made available to lithographers in Baltimore, Md.; Holyoke, Mass.; Hartford, Conn.; New Haven and Springfield, Mass., and Washington, D. C. Instructional units on Albumin Platemaking for use in the Trade School have been published in booklet form. Equivalent units in Deep-Etch Platemaking and Offset Presswork are being planned for next year. During the course of the year, the Foundation worked with the Lithographers National Association and the New York Trade School in establishing a Permanent Living Lithography exhibit in New York City. As has been announced, the Foundation will offer the fourth session of its Intensive Course in the Fundamentals of Lithography for college students during the coming summer

Correction

In an obituary notice for the late William Cochrane on page 63 of the April issue of Modern Lithography, it was stated that Mr. Cochrane was vice-president of American Colortype Co., New York. He had been a vice-president of the company ten or twelve years ago, but was not at the time of his death.

Mosler & Brandmark Move

Mosler & Brandmark Printing Ink Corp., manufacturers of printing and litho inks, moved its plant last month to larger quarters at 53 Rose Street, New York. The company occupies the entire building at this address.

STANDARDIZED



CHEMICALS

The Coleman & Bell Company, Manufacturing Chemists, announces that it has been selected by the Lithographic Technical Foundation to manufacture and package in ready-to-use form the plate-making chemicals and other lithographic preparations developed by the Foundation's research laboratory and described in its research bulletins.

FOR DEEP-ETCH PLATE MAKING

LTF Deep-Etch Coating Solution.

LTF Stopping-Out Shellac

LTF Deep-Etch Developer

LTF Deep-Etching Solution for Zinc

LTF Deep-Etching Solution for Aluminum

LTF Deep-Etch Lacquer

LTF Developing Ink

FOR ALBUMIN PLATE MAKING

LTF Stabilized Albumin Solution

LTF Developing Ink

PLATE ETCHES

LTF Plate Etch for Zinc

LTF Plate Etch for Aluminum

FOUNTAIN ETCHES

LTF Fountain Etch for Zinc

LTF Fountain Etch for Aluminum

Lithotine (Litho Solvent)

Lithotine Concentrate

Litho-Kleen Concentrate (for Blanket Wash)

Stocks of LTF preparations will be maintained in the principal cities of the United States and Canada, and arrangements will be made for demonstrations.

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THE FUCHS & LANG MFG. CO.,

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INTERNATIONAL PRINTING INK CO.

SINCLAIR & VALENTINE COMPANY

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SCUMMING

OF

TINTING TROUBLES?

PERHAPS the most common cause of ink trouble in the lithographic pressroom is lithographic breakdown,—resulting in complaints which the pressman refers to as "tinting" or "scumming." One of the worst features of such complaints is that there is not much that can be done to remedy an unsatisfactory ink once it has gone wrong. The only "cure" is properly compounding to start with.

THE "priceless ingredient" that the expert ink maker puts into his product to prevent trouble on the press is his "know how" acquired through years of experience . . . that indefinite fineness of quality that only superior craftsmanship can supply. Here at Bensing Bros. & Deeney we try to lick "lithographic breakdown" before it ever appears. How? By careful selection of pigment source in advance, keeping in mind the special demands of the lithographic technique, by exceptional care in formulation, and by adequate aging before use, where possible.

If "tinting" and "scumming" are occasional problems in your pressroom, find out how we have licked these troubles for other lithographic ink users.

BENSING BROS. & DEENEY

401 N. Broad St. Philadelphia, Pa. 538 S. Wells St., Chicago, Ill.

Thormod Monsen Dies

Thormod Monsen, 93, founder of Thormod Monsen & Son, Chicago typographers, died last month. Born in Norway, Mr. Monsen came to



THORMOD MONSEN

America as a young man and worked on several Scandinavian newspapers, as well as the Chicago Daily News, before starting in business for himself in 1887 as a printer and typesetter. The firm specialized in typesetting and pulling type proofs for reproduction by lithography. In 1903 fire destroyed his plant at the northeast corner of Clark Street and the river. Lack of insurance made it necessary to start all over again. In 1916 Mr. Monsen retired and left active control of the business to his son, Myron T. Monsen, who had joined the company in 1904. In 1931 the third generation, Myron T., Jr., and Gordon L. came into the business.

U. S. Printing Reports Profit

United States Printing & Lithograph Co., Cincinnati, showed a net profit of \$405,704 in 1940, according to the annual report recently issued. This compares with a net profit of \$288,344 in 1939 and a net loss of \$354,584 in 1938. The funded debt, amounting on January 1, 1940 to \$1,344,500 and bearing an annual interest charge of \$76,070, was reduced to \$749,980 at the close of the year, with annual interest charge of \$26,249. According to the balance

sheet of December 31, 1940, the current assets of the company are \$2,410,120 and current liabilities are \$305,754 as compared with \$2,412,596 and \$387,429, respectively, for the previous year.

Govt. Forms Need Official OK

An item in a recent issue of The Imprint, bulletin of the New York Employing Printers, calls attention to the fact that due to national defense activities, many individual projects call for printing which includes reproduction of government forms or insignia, and that therefore printers and lithographers should insist on written authorization from the proper governmental agencies before printing such official forms and insignia. This precaution is advisable, the bulletin points out, since certain persons may be taking unfair, and perhaps illegal advantage, of the unusual current public interest in governmental activities, and the printer may be an innocent party to a questionable project.

Ideal Host to Supply Salesmen

Ideal Roller & Manufacturing Co., manufacturer of printing and lithographing rollers, was host to the Printers Supply Salesmen's Guild at a cocktail party held in its Long Island City, N. Y., plant last month. The group was shown how rollers are manufactured on a tour through the plant, following which cocktails and a buffet dinner were served. A short business meeting concluded the evening. Those who served as hosts for Ideal were Norman Rowe, Burt Mackenzie, Walt Bass, Gus Reischel, Elmer Benny, Walter Robbins, Ed Walz, Paul Stocker, Paul Nelson and Pete Jahn.

Chicago School Honored

The Chicago School of Printing and Lithography was awarded first place for vocational schools in the graphic arts field, in a competition conducted by the Illinois Vocational Association at its annual convention in Rockford, Ill., last month. Harold E. Sanger, director of the Chicago school, was elected chairman of the graphic arts section of the organization for the coming year.

Byron Weston Names Bellows

The Byron Weston Co., Dalton, Mass., paper manufacturers, announce the appointment of John H. Bellows to the office of vice-president.



JOHN H. BELLOWS

In that capacity Mr. Bellows will serve as head of the company. He succeeds Brenton C. Pomeroy, president, who died recently. He also holds the office of treasurer, having been appointed in 1939. Robert Crane has been elected a member of the board of directors. He was formerly eastern sales manager in charge of Byron Weston's New York office until he became secretary of the company and manager of sales in 1940. He will continue in the latter capacity.

Hear C. W. Browne

Christopher W. Browne, who recently resigned as manager of marketing service for the United States Printing & Lithograph Co., Cincinnati, to become editor of Modern Packaging, gave a farewell address at the Cincinnati Advertisers Club last month. Mr. Browne spoke on "Packages as Vehicles for Consumer Messages," and illustrated his talk with color slides. Following his address, Mr. Browne, who also resigned his membership at the Cincinnati Ad Club, was presented with a testimonial signed by the members as a token of remembrance and good wishes in his new connection.

GOOD INKS AS YOU LIKE THEM

Color strength and brilliance plus uniformly good press working properties make Sinclair & Carroll inks the choice of leading lithographers throughout the country. In pressrooms, large and small, these inks are winning new friends and proving their all around dependability.

Sinclair & Carroll inks are carefully supervised in their manufacture by men whose lifetimes have been spent not only in supplying your standard ink requirements, but also in developing and improving your inks to their present high standard.

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f:6.8, f:8, f:10

Assuring freedom from distortion, this is the ideal lens for intricate subjects requiring an intense clarity of definition. Focal lengths: 81/4 to 24 inches.

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of the Highest Accuracy — For reversed negatives to save stripping the film, and reduction work.

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American Lens Makers since 1899

BEN DAY, Inc.



118 East 28th Street, N. Y.



At the 4th Annual Eastern Seaboard Conference of Graphic Arts Industries, held at Atlantic City, N. J., last month. The general theme of the meeting was "The Graphic Arts and the National Emergency." The program included a discussion of "Graphic Arts Unity," at which Merle S. Schaff, Dando-Schaff Printing & Publishing Co., Philadelphia, President of the National Association of Photo-Lithographers, represented the photo-lithographing industry.

H. A. Porter's Daughter Marries

Mr. and Mrs. Henry A. Porter of Shaker Heights, Ohio, announced the marriage of their daughter, Ruth Jane, to John Wendell Woodburn on April 23rd.

Phila. Litho Club Meets

At a meeting of the Philadelphia Litho Club held at the Poor Richard Club, Philadelphia, April 28, a large turnout heard a talk by L. L. Perskie of Defender Photo Supply Co., Rochester, N. Y., on the subject "Black Printers: How Are You Making Yours?" The speaker emphasized that in color lithography the black plate is often the pressman's "Achilles" heel." He traced the source of the trouble in many cases back to the camera operation, calling attention to the common tendency of some camera men to try to make one filter serve for every piece of copy. Selection of the proper filter, taking into consideration the special demands of each piece of copy, was said to be very important and examples of black plates properly and improperly prepared were shown. Mr. Perskie reminded his listeners that photographic fidelity is much more easily and much more likely to be obtained by accurate camera work than by excessive hand work on the plate after improper shooting.

Another speaker was Zenn Kaufman, author and lecturer, who told his audience how the principles of "showmanship" can be applied to get more customers and better prices for lithography.

It was announced that the annual outing of the club will be held at Silver Lake Inn, New Jersey, on June 21. A feature of the day will be the annual ball game between teams representing the lithographers and the supply trades. Tony Abrams of Hartman Bindery will act as chairman of the outing committee and will be assisted by Roy Bensing, Bensing Brothers & Deeney; Ronald Beyers, R. M. Hollingshead Corp.; and Bill Stevens.

Also announced was a recent ruling by the Board of Governors of the Club to suspend all dues of draftees during their time of service. While none of the members have been called as yet, several have enlisted and others are contemplating enlisting in the lithographic division of the Army.

Forbes Bowlers End Season

More than 100 employees of Forbes Lithograph Co., Boston, attended a banquet and entertainment at American Legion Hall, Revere, Mass., last month to mark the close of the 1940-41 bowling season for the Forbes Bowling League. Prizes were awarded to the winning teams and all members of the bowling league received souvenir pens from W. S. Forbes, president of the company, who was a guest at the banquet.

Stephens Joins Polygraphic

Roger Stephens, publisher of *Litho Media*, and recently with Columbia Litho, New York, has just joined the Polygraphic Co. of America as sales counsel.

Spray Mfrs. Organize

A group known as the Graphic Arts Spray Manufacturers has been organized recently to promote the correct use of spraying equipment in the printing and lithographing industries. An educational campaign will be launched to establish minimum standards of quality and content of spray mixes to assure elimination of all toxic and otherwise injurious ingredients. The new organization plans to distribute literature and hold lectures. Members of the group include American Type Founders, Elizabeth, N. J.; Triangle Ink and Color Co., Brooklyn; Beach Nonpareil Compounds, Inc., Richmond Hill, N. Y.; Delany & Co., New York; Paisley Products, Inc., New York; and S. M. Weatherly, New York.

Crafton Graphic Moves

Crafton Graphic Co., New York lithographic concern, formerly at 130 Cedar Street, has moved to larger quarters at 229 West 28th Street. An interesting little map is included with the announcement showing the relation of Crafton's new address to various points of activity in Manhattan.

Aluminum Output Lags

The supply-demand situation in aluminum has changed so radically in the last few weeks that it is fully apparent civilian consumers will receive very little of this vital defense metal either in 1941 or beyond this year, according to a recent article in the New York Herald Tribune.

April production of virgin aluminum, it was learned is estimated at 48,300,000 pounds, of which approximately 42,500,000 pounds is going to defense industries and 5,800,000 pounds to civilian users. May output virtually will be unchanged from April. On the other hand, tentative estimates place defense needs in May at 98 per cent of production, as against only 88 per cent in April. This close balance between monthly output and defense requirements probably will obtain in the coming months, according to the article, although there may be short periods when civilian allocations can be increased slightly.

Under the priority allocations announced by Edward R. Stettinius, Jr., civilian aluminum users are given priority ratings ranging from B-2 to B-8, while defense consumers

and the steel industry (deoxidizing ingots) automatically have the preference rating of A-10 or higher. Among those industries whose aluminum uses come in the B-4 classifications or better are chemicals, rayon, rubber and lithographing.

Zinc Production at Peak

The production of zinc in the United States is sufficient to meet all needs of the national defense program and the greater part of non-defense requirements, according to a report of the American Zinc Institute at its twenty-third annual meeting last month. Production increased from 478,000 tons in 1938 to 724,000, an all-time record, in 1940, the report showed. The estimated production in 1941, together with anticipated imports, is expected to make available 900,000 tons. Paul M. O'Leary, an official of the Office of Price Administration, told the zinc men further increases in the price of the product, now more than 47 per cent above 1939, "would not serve the public interest." He declared the stimulus to greater production based on a higher price "already has taken place."

Many lithographers who use aluminum press plates have undoubtedly received recently through normal jobbing sources announcement of the fact that the OPM has approved a "toll" agreement covering the very limited poundage of lithographers' aluminum scrap. Under this arrangement, the lithographer is promised a pound-for-pound delivery of new aluminum press plates for an equivalent poundage of scrap, and the price charged for the new plates as a "toll" will be the difference between the price allowed for the scrap and the normal price for new plates. Under OPM orders only producers of aluminum and aluminum products can present proposed "toll" agreements to the OPM for their approval. The Aluminum Company of America is to be congratulated for taking this step to protect lithographers' interest. This action, of course, does not insure a prompt supply of plates necessary to take care of present needs but the likelihood of being able to get the new aluminum press plates needed is considerably increased through the setting up of this "toll" agreement. Since last month's article on the plate situation, the 5 per cent priority on zinc has been increased to 17 per cent and it is felt that this 17 per cent will very probably be further increased shortly. The recent serious floods in the tri-state zinc mining district have had a serious effect upon mining operations and will serve further to complicate the zinc situation.

LTF to Market Chemicals

The Lithographic Technical Foundation, New York, has announced the appointment of Coleman & Bell Co., manufacturing chemists, Cincinnati, to prepare and package plate-making chemicals developed by the Foundation. Distribution will be made through established lithographic supply houses in the United States and Canada. Most of the formulas for the chemicals have been published by the Foundation in research bulletins from time to time. The Coleman & Bell Co. will prepare the materials according to Foundation formulas under the supervision of the LTF research laboratory at the University of Cincinnati.

It's a Girl

Born to Mr. and Mrs. Harry Grandt, Long Island, N. Y., a baby daughter on May 5. Harry Grandt is the New York manager for Roberts & Porter, lithographic supply house.

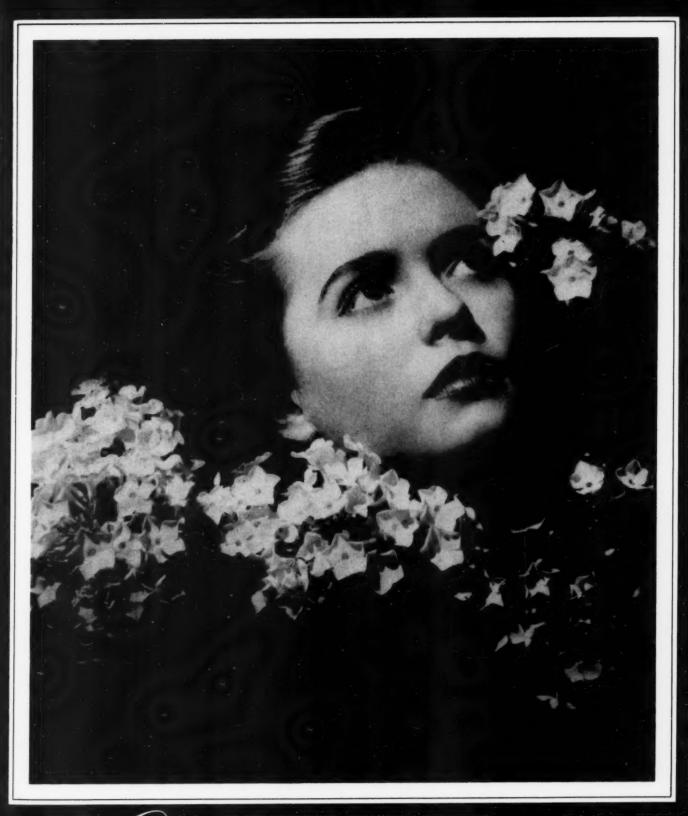
Marks 15th Year

The Tin Plate Lithographing Co., Brooklyn, celebrated its 15th anniversary last month at a dinner held at Oetjen's Restaurant, Brooklyn. Officers and employees of the company attended. During the dinner a bronze plaque was presented by the employees to George C. Seeba, president.

Although the Tin Plate Lithographing Co. itself is comparatively young, it is an offshoot of the old Tinplate Decorating Co., founded in the 1870's at Whitestone, N. Y. Following its removal, first to New York City and then to Brooklyn, Mr. Seeba joined the organization. In 1922 International Cork Co. took over the company and in 1924 New Process Cork Co., also of Brooklyn, bought out International. Mr. Seeba remained with the new owners until February 1926 when he broke away and organized the present Tin Plate Lithographing Co.

Providence Office Moves

The New York office of Providence Lithograph Co., formerly at 60 East 42nd Street, has been moved to 51 East 42nd Street.



Slack

If your black offset printing

If your black offset printing looks gray under natural light, it's time to turn to



LEVEY...

DENSITY

STHE WORD FOR IT...

An offset ink film, being very thin in comparison with other types of printing, must have exceptional density to give adequate coverage and depth of tone. Under the Levey process of manufacture, offset inks are made with more concentrated pigments and, therefore, have the highest density compatible with the best working qualities and cleanest impressions. That is why Levey black offset inks are BLACK.

Levey offset inks are now a major item in the Levey ink line. They were developed over a twoyear period in a specially equipped laboratory where research was directed solely toward the production of better offset inks.

When you use Levey offset inks you will find that they will not "grease up", that they minimize press stoppage, that they give maximum coverage and, in the case of the blacks that they have deep, blue undertones and are highly pigmented—as is witnessed by the impression on the preceding page.





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NEW EQUIPMENT AND BULLETINS

New Gast Air Pump

Gast Manufacturing Corp., Benton Harbor, Mich., has just announced a new air pump suitable for both vacuum and pressure operation. The vacuum is said to be of the rotary type, operating without gears, springs or valves. A slight adjustment converts the pump from vacuum to pressure service. The unit is equipped with a 1/2 H. P. motor and is available in a black metal or chromium plated finish. Pump and motor measure 81/2" long by 41/2" in diameter and the unit is light enough to be lifted and moved by means of a handle provided for that purpose. Air capacity of the 5F5 model is said to be 0.5 C. F. M.

Newick Issues Broadside

R. P. Newick Co., Rutherford, N. J., has just issued a new broadside describing the latest improvement in the Newick Automatic Halftone Diaphragm Control. Examples of halftones produced with the Control are included. Copies available on request.

Arvey Offers Display Aids

The Arvey Corporation, Chicago, mounters and finishers of lithographed advertising displays, has recently made available to lithographers a series of blank display constructions designed to aid the lithographic salesman in presenting new ideas to the advertiser considering point-of-purchase material. The blanks are also intended to help the lithographic trade in general to create new ideas in display construction.

For years the lithographer has been the main source of supply to advertisers on point-of-purchase material. Nevertheless, the Arvey organization is of the opinion that while the lithographic salesman may be expert in all forms of lithographic planning and production, he cannot be expected to be thoroughly familiar with every branch of industry allied

with the lithographic trade. The mounting and finishing of lithographed displays, for example, is, Arvey Corporation feels, such an important phase of the lithographic salesman's daily selling life that any help he receives in this respect will make him a better informed salesman, and unquestionably increase his sales. To supply that help is the purpose of the new idea series.

The Arvey Corporation is releasing the idea series in small groups of three or four. In all there are twenty-four ideas ready and more are being added. From these basic constructions, many different conceptions of design should present themselves to the salesman. Arvey will also make special construction samples to definite specifications. This service is available from any of its branches in Chicago, Jersey City and Philadelphia.

New Norman-Willets Catalog

Norman-Willets Co., manufacturer and distributor of photographic supplies, has just issued a new catalog, No. 88, which has been planned as a reference guide for information on photographic products essential to the graphic arts industries. Materials and supplies the company has available are described and illustrated. Helpful notes on offset film and plate manipulation and several chemical formulas are included in the catalog. Copies available on request.

GE Press Controllers

General Electric Co., Schenectady, N. Y., has just announced a new line of preset-speed and remote preset-speed printing press controllers. A feature of the new controller is a tilting panel that may be dropped 90 degrees in order to provide access to all wiring, studs and resistors behind the panel. According to the manufacturer, the new controller is applicable to many types of presses in the book and job printing industries, and

is available in ratings from 3 to 40 horsepower. Preset speed points range from 16 to 27 speeds. It may be operated on either alternating or direct current and on two or three phase power systems.

Issue Seventh PAC Report

General Printing Ink Corp., New York, has just issued a complete transcript of the seventh of its Printing and Advertising Clinics, which was devoted to "Research." Addresses by Dr. Walter S. Landis on "Research in Industry," Elmo Roper on "Research in Markets," and Dr. William F. Talbot on "Research in Printing Inks" are included in the booklet. Copies available on request.

Describes M-H Universal

Lanston Monotype Machine Co., Philadelphia; is distributing a folder describing its Monotype-Huebner Universal Process Machine designed for photo-composing work either in or outside the darkroom. It is used for copy preparation, making combination negatives and positives, making combination proof plates and production press plates, scribing lines in ruled forms in one or more colors on developed negatives, and scribing register and center lines. Copies of the folder are available.

Brochure on Chemical Coatings

"More Than Meets the Eye," is the title of a handsome brochure published by Interchemical Corp., New York, describing recent advances in protective and decorative chemical coatings. Printing and lithographic inks and metal decorating materials are among the coatings discussed. An item on offset inks briefly explains the lithographic process and the type of ink it requires. Large color pages illustrate the various articles which are dependent on chemical coatings for utility or decoration. Copies of the brochure available on request.

Color or Black & White HAMMER DRY PLATES

and FILM are the choice of discriminating craftsmen for negatives and positives.

HAMMER PANCHROMATIC PLATES A.H. COMMERCIAL SOFT GRADATION CONTRAST PROCESS

HAMMER SPECIAL SUPER PROCESS PLATES A.H.

HAMMER OFFSET PLATES A.H. SPECIAL ORTHO REGULAR

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The American made transfer paper that you have been looking for is now available in the NEW HYKLAS TRANSFER PAPER in two sizes 26 x 33 and 33 x 46. After numerous tests and experiments with this paper so as to meet the most critical needs, we now have the approval from several of the largest color houses in the country.

We are certain that our untiring efforts have been rewarded in our new paper and our only guarantee is, our increased paper business from reliable users.

We ask for a trial order from you so as to convince you of our boast, that we have the best "American made transfer paper" on the market to-day in two

Write for sample sheets.

J. H. & G. B. SIEBOLD, Inc.

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A quick vacuum on any operation is the result of Gast's long life rotary design. It's one important reason why this Gast 2NF10-V and other sizes of Gast vacuum pumps are the choice of leading printing frame manufacturers.

When you use printing frames equipped with Gast rotary vacuum pumps, you have the advantage of automatic lubrication . . . simple construction . . . no belts, springs or reciprocating parts . . . quiet, smooth operation without vibration—advantages that result in better, faster vacuum, longer pump life and minimum operating costs.

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"Specialists In Manufacture Of Small Vacuum Pumps" 113 HINKLEY ST., BENTON HARBOR, MICH.

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HEAT SEAL ADHESIVES HOT MELT ADHESIVES **GREASEPROOF COATINGS** MOISTURE-VAPOR **RESISTANT COATINGS**

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U. S. FINISHING & MFG. CO.

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CHICAGO, ILLINOIS

Offset Paper at Work

(from page 41)

dries. When the paper is to be used especially for writing, erasures may become necessary; hence, it is advisable to make a few test erasures and write over them to ascertain if the paper will still accept ink without spreading.

To determine whether an offset paper is surface-sized with starch, drop a little iodine solution on it; the presence of starch will produce an intense blue stain. To determine the presence of surface sizing and of rosin size, drop a little ether on the paper. After it has evaporated, a pale yellow ring appears in rosinsized paper, because the rosin is dissolved and deposited on the circumference of the ether drop. If the paper was hard sized, and remains so after this experiment, it indicates that it is probably surface-sized with gelatin.

(To be continued)

Contrast With Graded Screens

(from page 35)

to the large establishment. The many smaller plants, however, must depend on sound workmen of good practical ability, but with rather limited experience. The graded "fixed characteristic" screen can prove a decided help to them.

The tone of the finished print is purely dependent upon the area of the dot. The area of this dot in turn depends upon the intensity of the light reflected from the copy and the characteristics of the screen process as followed. Even assuming sufficient standardization to assure that highlight and shadow tones shall always reproduce as minimum and maximum dots respectively, there is no guarantee that the intermediate tones will all reproduce in their appropriate proportions. In fact, this is not the case except with carefully planned manipulation.

To correct for these irregularities, the experienced workman varies the proportion of his highlight, middle tone, shadow and flash exposures. He can thereby distort the natural disproportionate response in such a manner as to approximate a true reproduction. In fact, he is capable of improving on the original where conditions are not too bad.

Lacking the necessary judgment, the small plant gallery too frequently tries average methods on definitely not average subject matter, resulting in dismal failure. The blame is never fixed on the lack of knowledge. The procedure having unwittingly failed, it is without further ado discarded in favor of easier, more limited methods. The "fixed characteristic" graded screen is a boon to this group.

In photographic printing, several "grades" of paper are manufactured. Each specific grade has its own characteristic response and a photographer can readily select the specific paper whose characteristic softness or hardness fits his particular problem. Having made his selection and finding himself wrong, he can from the result immediately perceive his error and the method of correction is immediately at hand in the selection of another grade of paper.

THROUGH the availability of several graded screens of varying characteristics, from a soft tone through screens yielding medium contrasts, to one or more of greater contrast, the same flexible, simple scheme is available to the small gallery. Very little experience should prove adequate to recognize flat copy and select an appropriate contrast screen. What is more, the absence of screen distance, separate exposures, diaphragm openings and flash exposures reduces the probable chances of error many fold.

Not only can the graded screen be designed and prepared to automatically include all the corrections possible with highlight exposures, etc., but it can be further designed to increase or decrease the contrast as desired at any portion of the tone scale. This offers the possibility of greatly improving the rendering of highlight tones, a problem which has invariably involved retouching. In short, the characteristic response of a graded screen is entirely at the control of the designer and maker.

Such screens can be used either in the camera with a suitable vacuum or pressure holder, or as a very thin film sandwiched between the negative and the sensitized metal plate. In the camera all the confusing separate exposures, predetermined diaphragm openings, etc., are reduced to the one simple exposure at such a diaphragm opening as seems

most advisable to obtain the greatest degree of sharpness.

In rough news print work where speed is often essential, regular photographers' negatives can, with a suitable graded screen, be printed directly to the sensitized metal. Of course, the imaged dot will not be as sharp or clean-edged as would be the case by the indirect method. Such faults, however, are not important in news print, but the great saving in time and exposure is an important factor. This last method of operation also makes it practical for the smallest litho newspapers to include photographs of local and timely interest.

That the graded screen has its defects and its problems is perhaps partly to blame for the general lack of interest shown in its advancement during the early part of the present century. However, it seems more probable that the tremendous advancements being made in other departments of the field have claimed the front page, and as long as the standard technique was adequate, it was accepted and no further thought was given to rival processes.

The advent of the small shop handling direct mail campaigns and weekly newspapers brought attention to the expensive equipment and staff necessary to provide the relatively small volume of halftone work available. It is characteristic of the printing and photographic fields that when a need arises, the answer is frequently to be found in processes studied and even perfected years ago, but never in general use or even generally known because other elements of the work overshadowed their importance. So like the "modern" hats of yesteryear, little known processes come to the fore when needed.

In future articles details as to the exact procedure for preparing and using such screens will be given and an analysis of the tone reproduction qualities of standard and graded screens will be made.

Issue Letterhead Samples

Crocker-McElwain Co., Holyoke, Mass, has just issued a new portfolio containing samples of letterheads and office forms reproduced on its Action Bond and Action Script papers. The specimens have been produced by both offset and letterpress printing. Copies available.



FOR EVERY

Reproduction NEED

SUPER CONTRAST

CRACO LITH

PANCHROME

CONTRAST

CRAMER "25"

ALPHA

PANCHROME PROCESS

G. CRAMER DRY PLATE CO.

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Superior Quality
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ZINC

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ALBUMEN OR DEEP ETCH PROCESS

Rolled Under Rigid Technical Control with a Background of 70 Years Experience

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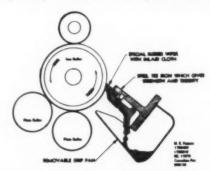
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MARTIN DRISCOLL & CO.

BRANCH PLANT IN MILWAUKEE, WISCONSIN

INTERNATIONAL PRESS CLEANERS

are daily demonstrating their efficiency in increasing Output and Lowering Production Costs



THIS IS OUR METHOD OF REMOVING INK FROM PRESS

We invite you to take advantage of our thirty day trial offer. If interested write and let us know the size and make of your press.

INTERNATIONAL PRESS CLEANER & MFG. CO.

112 Hamilton Ave.

Cleveland, O.

New Problems Occupy Lithos

(from page 26)

the floor so that all present will have an opportunity to present to the board of experts their particular problems.

In choosing representatives of the paper, ink and machinery industries to address the production session, the L. N. A. has received the cooperation of allied trade associations. These, in turn, have selected outstanding authorities in their industries to participate in the discussion. Robert J. Butler, Fuchs & Lang Manufacturing Co., New York, will represent the ink manufacturing industry. He will also preside as chairman at the session. B. L. Wehnhoff, will speak for the paper industry. A. Stull Harris, Harris-Seybold-Potter Co., Cleveland, will represent the lithographic equipment industries. In addition to these industry representatives, Dr. Robert F. Reed, research director of the Lithographic Technical Foundation, New York; Victor W. Hurst, head of the graphic arts department, Eastman Kodak Co.; and Charles W. Latham, consultant and contributor to Modern Lith-OGRAPHY, will be on hand to discuss basic technique and research, photography, pressroom procedure and platemaking.

Lithographers have been invited to prepare and submit written questions well in advance of this panel discussion so that a lively meeting is anticipated. Just prior to this production session, Alfred B. Rode, president of the Lithographic Technical Foundation, will deliver his annual report on the activities of the L. T. F. He will describe progress which has been made in the educational and research departments of the Foundation, and the steps which that organization is taking to gear its program with the defense picture.

As usual, the L. N. A. has planned a golf tournament. It will be played off on Friday, the 30th. The convention golf committee is composed of Robert R. Heywood, Jr., of R. R. Heywood Co., chairman; William Y. Dear, of Jersey City Printing Co.; Harold A. Merten, Henderson Lithographing Co.; and Alfred F. Rossotti, Rossotti Lithographing Co.

Prizes will be awarded as usual. The L. N. A.'s annual banquet and entertainment will be held on Thursday evening, the 29th.

The L. N. A. has issued invitations to all lithographers, whether or not they are members of the association, to attend its three-day session. In addition, invitations have been extended to members of the equipment and supply trades. One of the largest and most important conventions in L. N. A. history is anticipated.

Photo-Litho Review

(from page 30)

less impossible. Hans Eggen (Klimschs Druckerei-Anzeiger, 67, October 25, 1940, 886) has devised an addition to deep-etch sensitizers, which causes the applied coating to possess a green color. On application of the developer, the unexposed areas in the image assume a deep violet color, rendering the image distinctly visible, and indicating the progress of development. The Loeffler idea of adding dextrin to deep-etch sensitizers has its German counterpart in the process publicized by the Reichsbahn-Zentralamt (Deutscher Drucker, 47, December, 1940, 95), in which an aqueous mixture of bichromated dextrin is used for sensitizing zinc or aluminum plates. Removal of the image (after etching) is effected with a 4% hydrochloric acid solution.

Study of German graphic arts trade literature shows a definite trend toward the employment of substitute materials, generally of synthetic nature. While this situation is in large part induced by a scarcity of materials, it has led to interesting discoveries of possible far-reaching portent-let American lithographers take cognizance of the tribulations of their European brethren and be prepared to take up the torch of advanced research, not only to combat a possible material scarcity in our country, but also to keep in step with the vanguard of photolithographic progress.

Auxiliaries for the Camera

(from page 38)

ment for precision settings. The graduations on the scale are generally

coordinated to some particular halftone theory or may be simply a fine graduation of the lens numbers. Whatever the scale may be, it will nevertheless permit lens settings exactly coordinated to the bellows extension. By means of such aperture control, the quality of halftone negatives will be improved, errors in exposure will be eliminated and a uniform technique evolved. The following constitute some of the prominent aperture controls available; namely, Douthitt, Kinzler, Newick, Long. It is possible with certain controls to operate them from the lens board as well as from the darkroom. This offers many advantages since the photographer need not leave the darkroom to change apertures during a halftone exposure.

Shutter Control

Most cameras can be equipped with a Packard shutter and this shutter in turn can be operated electrically instead of by the bulb. The electro-pneumatic mechanism can be hooked up to an electrical timing device. By means of the timer, accurate exposure intervals may be obtained which can be duplicated over and over again or varied to meet the conditions. The ideal camera, aside from the standard appurtenances, should contain diaphragm control, automatic flash lamp, a compensating lens, an arc-light carriage, a screen elevating mechanism and electric shutter control.

A camera so equipped will permit the production of line and halftone negatives with the minimum of time and effort. Furthermore, it will reduce considerable error and waste and increase the quality of negatives by reason of constancy and precision of all camera functions.

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LITHOGRAPHIC ABSTRACTS

Abstracts of important current articles, patents, and books, compiled by the Research Department of the Lithographic Technical Foundation, Inc. These abstracts represent statements made by the authors of articles abstracted, and do not express the opinions of the abstractors or of the Research Department. Mimeographed lists have been prepared of (1) Periodicals Abstracted by the Department of Lithographic Research, and (2) Books of Interest to Lithographers. Either list may be obtained for six cents, or both for ten cents in coin or U. S. stamps. Address the Department of Lithographic Research, University of Cincinnati, Cincinnati, Ohio.

Photography and Color Correction

Color in Photography. Lars Moen. Photo Technique, 3, No. 2, Feb. 1941, pp. 61-5. Control methods applicable to all types of color photographs, including Kodachromes, and those applicable only to separation negatives and positives are discussed.

National Color Print Calculator. Anonymous. Modern Lithog-Raphy, 9, No. 2, Feb. 1941, p. 59. A Color Print Calculator has been marketed which gives a speedy and accurate means of arriving at correct exposure factors. The densities of the gray scale on each negative are measured by a densitometer. The exposure time of one of the negatives is determined by judgment or by trial and error, and the exposure times for the other negatives can then be quickly found with the calculator.

Moire Pattern—Reproducing Half-tone Prints to Avoid Screen Effect. Martin Leeden. Modern Lithographer and Offset Printer, 37, No. 1, Jan. 1941, pp. 6, 14. A moire pattern is formed when two half-tone impressions are taken on the same sheet very slightly out of angular register. It is due either to two sets of lines or dots crossing each other, or to the lines or dots in one set having a slightly different "pitch" or number of lines to the inch from the other. Screens of equal rulings

should be used in reproducing halftone prints. If these screens are crossed at an angle of 30° a minimum pattern is formed. In three- or fourcolor work where the moire pattern occurs even with correctly set angles, it is caused by slight errors in the rulings of some screens. This may be helped by setting the screen angles at 60° instead of 30°. In making a new half-tone negative from a print, the correct angle must be found by trial and error.

The Color Analyst-An Aid to Color Printers. Thomas S. Curtis. Photo Technique, 3, No. 4, April, 1941, pp. 64-5. The Curtis Color Analyst, based on the principles of the photochromoscope, affords a means whereby three black and white positive transparencies printed from color separation negatives may be viewed in full color and thus it eliminates the making of a "proof" print in color. The three light sources are calibrated to enable the operator to read the percentage of plus or minus blue or yellow required to produce the best color balance with an established amount of magenta in a given set of positives. A technical description of the instrument and its operation is given. The methods of determining contrast correction and of diagnosing negative faults are described.

The Construction of a Transmission Densitometer: Jack H. Coote. British Journal of Photography, 88, No. 4215, Feb. 14, 1941, pp. 77-8; No. 4216, Feb. 21, 1941, pp. 87-9. This article gives a detailed description of the principles, construction, calibration, and operation of a transmission densitometer. The densitometer is an adaptation of the Capstaff-Green instrument and is accurate to within .01 for densities less than 1, and within .02 for densities between 1 and 2. It provides a diffuse density range from 0 to 2.5.

Determinations are unaffected by voltage fluctuations. Measurements can be made of areas as small as 1–50" in diameter. The meter can be calibrated with or without a comparison wedge. Readings are made by means of an illuminated indicator slit which traverses a translucent scale without parallax effect.

Production of Filters to Compensate the Variable Density of Photographic Images. Olaf F. Bloch. British Patent No. 512,450 (Mar. 4, 1938). With wide angle lenses the light intensity falls off from the center to the peripheral parts of the image. In map making this variation in intensity shows up as a pattern on the composite print. A description is given of the preparation of a compensating graded density filter to be used in the camera. (British Journal of Photography, 88, No. 4215, Feb. 14, 1941, pp. 82, 83.)

Precision Densitometer. D. M. Gallagher. Photo Technique, 3, No. 4, April 1941, pp. 51-6. A new type of densitometer employs two photoelectric tubes, an amplifier circuit, and a magic eye tube to obtain a balance between the light from an unknown sample and that from a calibrated variable area diaphragm. This arrangement is claimed to give more accurate results than former instruments especially for densities greater than one. Diagrams of several types of densitometers and statistical data comparing results obtained with this instrument and with a visual densitometer are given.

Dufaycolor Process Films and Dufaytissue: an Improved Color Film and a New Color Print Material. C. H. Beals. *Photographic Journal*, 81, March 1941, pp. 108-114. Until now only one standard type of contrast has been available for color photography, but two new kinds of



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Dufaycolor Process Films known as Medium and Hard have been developed recently. This makes three types of contrast available: (1) normal contrast with standard Dufaycolor (Type 2); (2) medium contrast with Dufaycolor Process Film-Medium, and (3) high contrast with Dufaycolor Process Film-Hard. Dufaytissue is a new type of color print material which consists of a coating of colored gelatine on a transparent film support, making it possible to expose through the base so that only one transfer operation is necessary. A detailed description of each step in making colored prints from separation negatives using Dufaytissue is given.

Photo-Lithography. A. Haigh and H. M. Cartwright. Process Engravers' Monthly, 48, No. 566, Feb. 1941, p. 57. In plants having an artists' department for production or selection of originals, there should be no difficulty in obtaining copy suitable for lithographic reproduction. In cases where the originals come from the outside, the persons responsible for their selection or production should be informed of the particular requirements of the process. Points to observe in the preparation of line originals are discussed. It is best to make the drawing 11/2 times as large, in linear measurements, as the final print is to be. The preparation of originals for "reversal" processes is also discussed.

Highlight Negatives. Frank H. Smith. Photo-Engravers' Bulletin, 30, No. 8, March 1941, pp. 46-8. There are a number of methods of highlighting negatives which are feasible in photo-lithography, but the author believes that handwork is more practical for photo-engraving. The methods discussed are: (1) "Sears' Highlight" system, which is effective but requires too much time; (2) brightening the halftone until the highlights won't print, which works only if the artist makes a jump between the top white tone and the next; (3) giving an additional short exposure with a wide aperture; (4) the Bassani process; (5) Trist's method of rotating the lens aperture;

(6) the use of the Sterling-Groesbeck Diaphragm; and (7) two processes developed by R. and S. Collins.

Handbook of Color Photography (Book). Published by Fotoshop, Inc., New York, 116 pp., \$1.00. Written and compiled for the graphic arts by the color technicians of Fotoshop, Inc., this book is a lucid introduction to color photography. It takes the beginner through the technical, chemical and physical phases of color reproduction by photography, offering a thorough treatment of the subject. To the advanced worker it is an encyclopedia of practical information and working routine. (MODERN LITHOGRAPHY, 9, No. 3, March 1941, p. 40.)

Photography in the Lithographic Industry. Walter A. Kaiser. National Lithographer, 48, No. 3, March 1941, pp. 20, 22, 70. The various steps in the production of a lithographic plate by photography, and the factors in each step which affect good camera results are outlined and discussed very briefly.

Planographic Printing Surfaces and Plate Preparation

Offset Plate Making. Don Nicholson. Modern Lithography, 9, No. 3, March 1941, pp. 34, 53. The operations in the making of an albumin plate are described in detail.

The Ten Essentials of Platemaking. Joseph Mazzaferri. Lithographers' Journal, 25, No. 12, March 1941, p. 496. Essential points to remember in making a plate are given, ten for albumin plates, and ten for the deep-etch process. Cellosolve is recommended as a substitute for alcohol in the deep-etch process because it is absolutely water free.

Equipment and Materials

Rubbers, Natural and Synthetic. J. W. Schade. The Rubber Age, 48, No. 6, March 1941, pp. 387-392. The chemical and physical properties of natural and synthetic rubbers are compared and discussed in detail. The properties of Perbuman and Oil Resistant Ameripol seem to indicate that they could be used in the manufacture of rubber blankets and other printing elements.

Paper and Ink

Metal Inks for Offset Presses. Anonymous. National Lithographer, 48, No. 2, Feb. 1941, p. 24. Offset pressmen have had much difficulty with gold and silver inks as well as with gloss inks. The letterpress printer has the advantage with these in that he can transfer a much heavier film of ink to the paper. Offset lithographers can obtain excellent results if they use deep-etch plates, carry as much ink as possible, and use anti-smudge spray equipment. A size or base applied under the gold or silver ink insures good binding. Smooth coated paper gives the best results.

Pigment pH Effect on Drying. S. Marks. Paint, Color, Oil, Varnish, Ink, Lacquer Manufacture, Dec. 1940. It was found that acceleration of drying increases with increasing alkalinity of pigments used. An explanation is given. Solubility and pH of a pigment may vary according to the type, origin, and purity of sample. (American Ink Maker, 19, No. 1, Jan. 1941, pp. 43, 45.)

Drying of Printing Inks. A. C. Healy, Paint, Color, Oil, Varnish, Ink, Lacquer Manufacture, Jan. 1941 (to be concluded in Feb. issue). Drying by oxidation, evaporation, penetration and gelation are discussed, and the reliance of different types of printing processes on different combinations of these phenomena is noted. (American Ink Maker, 19, No. 2, Feb. 1941, p. 43.)

Use of the Analytical Balance in Matching Colors. L. F. Rogers. National Lithographer, 48, No. 3, March 1941, p. 18. The analytical balance may be advantageously used to obtain better control in color matching. An example is given of a cream color which is to be matched. About 5–10 grams of white, red, and yellow, each on a lid, are weighed

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on the balance. Three or 4 grams of white are removed and the yellow and red added gradually until a match is obtained. Each of the lids with its respective color is again weighed and the difference gives the amount of color used. Thus a ratio is obtained which can be used in making up the desired color.

Controlled Conditioning of Paper. A. E. Montgomery. Paper Trade Journal, 112, No. 11, March 13, 1941, pp. 27-30. The conditioning of printing papers in the paper mill has become more important as the desirability of preconditioned paper with proper moisture content has become recognized by the printing plants. Means for conditioning are discussed. The operation of the recently devised Cycle Conditioner is explained. This affords an economical means for adding any desired amount of moisture uniformly at high speed, being adaptable to use either as a separate operation or in synchronism with other operations.

Control of Paper Expansion in Multicolor Lithography. Charles G. Weber. Paper Trade Journal, 112, No. 10, March 6, 1941, pp. 31-3. This article describes a new method of obtaining the correct adjustment of the hygrometric condition of paper to be used for multicolor lithography. For best results, the paper must contain an excess of moisture before the start of the first printing. The correct excess amounts to from 0.5 to 0.7% above equilibrium with the air in the pressroom. It is obtained by conditioning the paper to moisture equilibrium with an atmosphere having a relative humidity 5 to 8% above that in the pressroom. In the method just developed, adjustment of the moisture content is quickly and conveniently accomplished with the conventional type of paper-conditioning machine by adding water, in measured amounts, to the air within the machine. The method employs humidifier spray nozzles which are fed from a reservoir into which the water is measured. The method makes it possible to bring paper to a selected moisture content not below equilibrium with

the room air, and greatly increases the rate of conditioning.

Drying Enameled, Varnished, Lacquered or Printed Surfaces, Such as Those of Tin Plate in Can Making, Etc. Eugene Kienle and Herbert J. Wolfe (to American Can Co.). U. S. Patent No. 2,220,928 (Nov. 12, 1940). Apparatus is described, and a method of drying coated surfaces which comprises producing a zone of uniformly distributed radiant heat of high temperature, having increased drying action by projecting an open flame in a lateral direction against one edge of an arched heat resisting foraminous material to render it uniformly incandescent, reflecting the heat radiation from one side of, and back through, the material so that the reflected heat waves combine with the directly radiated heat waves from the opposite side, thus creating a concentrated effective heating zone, and thence passing the coated surface, through said heating zone. (Chemical Abstracts, Vol. 35, No. 5, March 10, 1941, p. 1652.)

General

The Meaning of pH. Henry Beechem. Midwestern Lithographer, 5, No. 10, Feb. 1941, pp. 6-7. pH is the measure of the acidity or alkalinity of a given solution. The acidity of an acid is due to the H or hydrogen ions it contains, while the alkalinity of an alkali is due to the OH or hydroxyl ions. To measure the concentration of the H ions, we use the pH scale on which 7 is the neutral point. Points below 7 are acid; those above, alkaline. There are two ways of making pH measurements, the colorimetric and the electronic. Both methods and the principles behind them are explained in detail. pH control is very important in the lithographic industry.

Trends in Photo-Lithographic Printing. I. H. Sayre. Share Your Knowledge Review, 22, No. 5, pp. 23-5. More stable coatings are being produced by substituting certain synthetic materials for albumin. Another important advancement is the use of grainless plates in which two metals

are employed. One such plate called "Alkuprint" (British Patent No. 475,588) has a .003 mm. coating of copper alloy over an aluminum sheet. The metal is etched down to the aluminum in the non-printing areas, leaving a durable copper image. A similar process, the "Aller" process (British Patent No. 483,349), makes use of a thin copper image on a lead plate. In another process zinc and a small quantity of aluminum are electrolytically deposited on steel so that the pores of the base metal are opened and the zinc and aluminum are impregnated in the steel giving it a porosity similar to lithographic stone. Two new patents which have been issued on photo-type-composing machines are discussed.

Standardized Production. C. W. Latham. Modern Lithography, 9, No. 3, March 1941, pp. 27-31, 53. Standardized production is being accomplished in more and more lithographic plants. Some of the problems these firms have had to face and their solutions are described in detail. The comparative advantages and problems of Monel and stainless steel plates versus zinc and aluminum plates are discussed. Another plant successfully solved their graining difficulties by standardizing their graining procedure. In the proving department it was found more expedient to obtain accurate proofs rather than faked ones, and more satisfactory proofs for the salesmen were gotten when the densitometer was used for control. Another problem which one lithographic house faced was that of soft prints due to underexposure of the albumin. It was found that voltage fluctuations caused variations in light intensity and the number of soft prints were reduced to a minimum by giving a slight overexposure.

Young Lithos Hear White

Stanley C. White, cost engineer of the Lithographers National Association, was guest speaker at a meeting of the Young Lithographers Association, New York, held last month at the New York Advertising Club. Mr. White spoke on "Costs Make Sales and Sales Make You."

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NOTE: This is a classified list of the companies which advertise regularly in MODERN LITHOGRAPHY. It will aid you in locating advertisements of equipment, materials or services in which you are particularly interested. Refer to the Advertiser's Index on page 73 for page numbers. Say you saw it in Modern Lithography.

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Dexter Folder Co. (Folding Machinery)
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Ideal Roller & Mfg. Co. (Rollers)
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International Printing Ink, Div. of Interchemical Corp.

International Printing Ink, Div. of Interchemical Corp.
(Flannel, Molleton, etc.)
Kimble Electric Co. (Motors)
LaMotte Chemical Products Co. (pH Control Apparatus)
Litho Equipment & Supply Co. (Proving Presses)
Rapid Roller Co. (Rollers and Blankets)
The Rathbun & Bird Co., Inc. (Machinists)
Roberts & Porter, Inc. (Rollers and Blankets)
Rutherford Machinery Co., Div. General Printing Ink Corp.
(Proof and Test Presses)
The Senefelder Co., Inc. (Blankets, Molleton, etc.)
J. H. & G. B. Siebold, Inc. (Rollers, Blankets and Molleton)
Sinclair and Valentine Co. (Blankets)
W. A. Taylor & Co., Inc. (pH Control for Fountain Solutions)
Vulcan Proofing Co. (Rollers and Blankets)

CLASSIFIED

All classified advertisements will be charged for at the rate of ten cents per word. \$2.00 minimum, except those of individuals seeking employment, where the rate is five cents per word, \$1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of Modern Lithography, 254 W. 31st St., New York. Closing date: 1st of month.

General Information Concerning Inventions and Patents:

A reference book for inventors and manufacturers, also containing sections on the registration of trademarks and copyrights, and a "Schedule of Government and Attorneys' Fees"—sent free on request. Simply ask for "booklet" and "fee schedule." Lancaster, Allwine & Rommell, Registered, Patent and Trade-Mark Attorneys, 402 Bowen Building, Washington, D. C.

Position Wanted:

In litho art department. Executive ability. Over 20 years experience in all methods of color reproduction. Dot etching or staining. Photoretouching or wash for color work. Stripping, Benday, Lettering. Address Box #683.

Wanted:

Position as offset lithographic superintendent or pressroom foreman. Have background of 12 years experience, backed by satisfactory references from previous employers. Address Box #682.

Wanted:

Two Graining Machines, tub size 80" x 108". Reconditioned machines. State best price and where located. Address Box #674.

Help Wanted:

South African litho house has vacancy for an artist. One with par-

ticular experience in the designing of labels. Are prepared to offer two years contract and passage to South Africa. Please state salary required and also submit assorted specimens of your work. Address Box #686.

Wanted:

Superintendent of large lithograph department middle western city. This man must know colors, inks and be able to judge press plates, positives and presswork. Permanent position for a capable man. Address Box #687.

For Sale:

30" x 40" all metal vacuum printing frame with 35 Amp., 110 Volt printing lamp—\$135.00; 17" x 17" Levy or Wesel camera with darkroom control—\$250.00. Singer Engineering Co., Complete Plate Making Equipment, 242 Mott St., New York City.

Position Wanted:

Capable woman executive, 8 years all departments offset including supervision copy preparation and Varityping; formerly letterpress and publishing (book production); available for position of responsibility. Address Box #689.

Situation Wanted:

A really capable cameraman and platemaker, now employed as department foreman, desires connection with progressive concern. Will go anywhere for right opportunity. Address Box #688.

Help Wanted:

Experienced halftone camera man to sell Newick Automatic Diaphragm Control. Commission basis. Address Box #691.

Situation Wanted:

Superintendent thoroughly capable of taking complete charge of

offset department. Twenty-five years experience as lithographer. Ten years as superintendent. Practical knowledge of all branches. Process work, planograph or what have you. A real producer willing to go anywhere. Address Box #685.

Situation Wanted:

Camera man and platemaker, 36 years old, several years experience, desires connection, preferably new concern in New York or 100 mile radius. Address Box #684.

Situation Wanted:

Stripper, retoucher, layouts, airbrush, color separation, experienced four-color labels, booklets, folders, displays, some process greeting cards. Address Box #690.

Color Laboratories Merge

The Color Process Laboratory, Hollywood, Calif., and the Photochrom Laboratory, of Chicago, have been merged to form the Photochrom Imbibition Print Laboratories. The new concern will be located at 837 Fairfax, Hollywood. Photochrom specializes in the production of Chromura prints from Kodachrome, and the Color Process Laboratory produces Kodachrome prints for both amateur and professional purposes.

Joins National Process

George B. Renzi has joined the Sales Department of National Process Co., New York. Mr. Renzi was with the merchandising division of General Mills, and a lecturer for Ford Motor Company during the New York World's Fair.

Add Offset Equipment

Collins, Miller & Hutchings, Chicago photo-engravers, have added offset equipment to their printing facilities. Two Harris presses, one 17 x 22 and one 21 x 28, with camera and other necessary equipment, have been installed, according to James A. Collins, superintendent of the new department. One noteworthy job already produced by the new presses is the latest issue of the Chicago Federated Advertising Club's house organ, C. F. A. C. News.

LaMOTTE PH CONTROL METHODS IN THE PLATE AND PRESS ROOMS



LaMOTTE BLOCK COMPARATOR

This compact unit for determining pH of solutions is complete with pH color standards—indicator solutions—marked test tubes and instruction booklet.

Illustrated folder sent on request

LaMotte pH Service offers simple and economical pH apparatus, indicator solutions etc., for use in determining the pH of fountain solutions, etc.

LaMOTTE CHEMICAL PRODUCTS CO.

Dept. R., Towson, Baltimore, Md.



• THE JOHNSON HI-LITE STOPS AND METHOD will definitely improve half-tone negatives and retain much of the otherwise lost detail in the lighter and middle tones. The highlights can be dropped out entirely at will. It is easily understood.

JOHNSON STOP AND INDICATOR CO.

Eau Claire, Wisconsin

RUSSELL THE FASTEST SELLING FOLDERS IN AMERICA

ERNEST

THE WORLD'S GREATEST BAUM FOLDING MACHINE VALUES

615 Chestnut St.

Philadelphia, Pa.

John Stark Litho Chemical Supplies

"CONSERVE YOUR PLATES"
For Long Life

USE - "SUPER-LAC" PLATE PRESERVATIVE

For ALBUMEN and DEEP ETCH
Smooth Easy Application

SUPERIOR IN EVERY WAY 1 qt. \$2.75 . . . 4 qts. \$8.00

JOHN STARK LABORATORIES

155 Granby Rd. So. Hadley Falls, Mass.

Agent, CANADIAN FINE COLOR CO.—Toronto, Canada

EQUATOR OFFSET

A pure white, fuzz-free paper that gives exceptionally fine printing results and satisfies every demand of the critical user in respect to color, finish, opacity, bulk, strength, cost.

A product of THE SORG PAPER COMPANY

Middletown, Ohio

America's pioneer manufacturer of offset papers.



THERE ARE DEPENDABLE

MERCK PRODUCTS

FOR EVERY CHEMICAL NEED OF THE PHOTOLITHOGRAPHER

MERCK & CO. Inc. Manufacturing Chemists RAHWAY, N. J.

New York • Philadelphia • St. Louis
In Canada: Merck & Co. Ltd., Montreal and Toronto

3 "MUSTS" in PLATE GRAINING

TOP QUALITY WORK DEPENDABLE SERVICE FAIR PRICES

Make sure of getting all three by letting us handle your next graining job. A trial order will convince you.

LITHO PLATE GRAINERS of DETROIT, Inc.

1241 TENTH ST.

DETROIT, MICH.

A Complete Graining Service for the Trade

Classified Advertising

Brings excellent results at a minimum cost. Rates are only 10c per word with a minimum charge of \$2.00 per issue, except those of individuals seeking employment, where the rate is five cents per word, \$1.00 minimum. Whether you have some surplus equipment or material for sale, have a position open or are looking for a new connection, etc., use space in the Classified Section of Modern Lithography. It will place you in touch with the entire lithographic industry.

Elect Chicago Lithographers

Chicago Graphic Arts Federation drew three new executive officers from the lithographic industry at its recent annual election. Carl E. Dunnagan, Inland Press, was elected first vice-president; Walter H. Nelson, Rand, McNally & Co., second vice-president and W. H. King, Stationery Manufacturing Co., treasurer. Directors elected from lithographing firms included Thomas E. Donnelley, R. R. Donnelley & Sons Co.; R. B. Nelson, Magill-Weinsheimer Co.; and Theodore Regensteiner, Regensteiner Corp.

New Location for W. B. Marsh

William B. Marsh, public relations counsel, has moved his office from 551 Fifth Avenue to 225 Varick Street, New York. The change has been made to facilitate the work of the Graphic Arts Sales Research Associates, of which Mr. Marsh is secretary. He will continue to handle public relations for ATF and other clients.

Forbes "Old Guard" Meets

The "Old Guard" of the Forbes Lithograph Manufacturing Co., Boston, comprising employees who have been with the company twenty-five years or more, met at the Parker House in Boston last month for their annual banquet and entertainment. W. S. Forbes, president and treasurer of the company, presented fifteen new members with gold watch fobs. Membership in the "Old Guard" totals 120, including both active and retired employees, and nearly all were present. The meeting also marked the annual election of officers and committees for the coming year.

N. Y. Fund Appoints Loder

George Loder, president, National Process Co., New York, has been appointed chairman of solicitation of the graphic arts section of the campaign now being conducted by the Greater New York Fund for local welfare and health services. The graphic arts industries in New York have pledged a contribution of \$60,000 to this year's fund, compared with \$25,000 given in 1940.

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(The Advertisers' Index has been carefully checked but no responsibility can be assumed for any omission.)



". . . and next time, at least Knock!"

..."traveling" salesman!

DID you hear the one about the "traveling" salesman? No, not that one,—but the one where the tough purchasing agent had never heard of his firm or his products,—and the salesman's visit was very, very short.

Now, if the tough P.A. had known something about this guy's goods IN ADVANCE of his call,—via regular advertising in representative trade papers, for example, this might never have happened.

You can help your salesmen sell better and quicker in the lithographic field by advertising your products and your firm regularly in . . .

MODERN LITHOGRAPHY

254 West 31st Street

New York, N. Y.

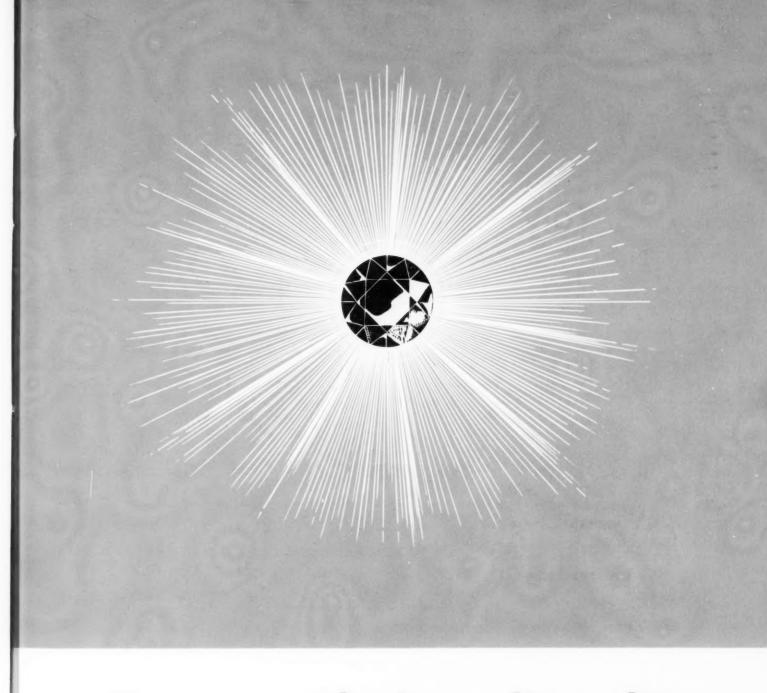
Tale Ends

ANYONE who has an idea for a substitute for zinc and aluminum plates might well get in touch with the recently organized committee of the National Academy of Sciences, sponsored by the Office of Production Management, in Washington. This committee has a fund especially set up for the purpose of aiding laboratory research in developing any of the hard-to-get metals. They will help correlate the experiments that industrialists have been carrying on independently on substitute materials and will help get the experiments out of the laboratory stage into production. The group will study and offer counsel on aluminum, substitutes for tin in the can and savings in zinc, among other industry-wide priority items.

Speaking of priorities, most organizations, even though they have war materials contracts, are able to take care of a portion of their customers' needs, at least to the extent of replacements and service. There is every reason why such a company should make this known to its customers, and discuss it in national consumer advertising. This is just a hint to lithographers who find that some of their clients are thinking of paring their advertising expenditures. Remind them that in the light of past experience and in the name of good common sense future sales must be considered.

Another sales argument: aside from concerns whose major interest is in defense work, a few makers of consumer goods are tempted to take a free ride on the wave of prosperity in retail fields. Some advertising budgets have been cut for no other reason than that a part of the advertising appropriation can be converted into earned profits. As it is a normal and justifiable expense, this money should be spent for sales stimulation. Otherwise much of it is absorbed in taxation.

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How many sides has a diamond?

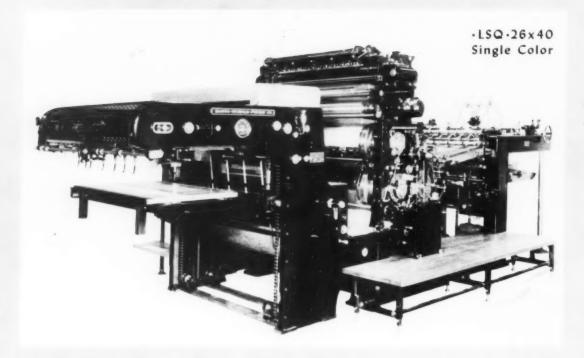
PART as well ask how many parts in a press—for the number depends on the design.

Requirements are more definite when you consider sensitized materials—for film has a specific job to fill in lithographic work. But the many-sided versatility of Agfa Reprolith films brings advantages that every lithographer should know about. There are, for example, regular, ortho and pan emulsion types to choose from. Other properties of these outstanding films include: brilliant contrast: high resolving power; wide development latitude: and effective anti-halation coating. Try Reprolith for yourself. Its dependable excellence and extra margin of quality will bring you the satisfaction that results when using fine materials. Graphic Arts Division. Agfa Ansco, Binghamton, N. Y.

Agfa Reprolith Films

MADE IN U. S. A.





THE WEIGHT OF EVIDENCE CONTINUES TO STRENGTHEN

HARRIS DOMINANCE

IN OFFSET PRODUCTION

HARRIS LITHO . CHEMICALS

Through research, Harris has developed and standardized new chemicals for both deep etch and surface plate making processes. Full details upon request. Write us with reference to your lithographic problems.

• The preponderance of Harris installations in established Lithographic plants throughout the country, and the preference for Harris equipment in new plants, confirm its successful performance and firmly establish Harris as the press of Modern Offset.

Harris dominance has been attained only through high performance in the pressroom. Continued preference for Harris equipment is the tribute paid to pioneer builders of successful Offset presses by the large majority of leading lithographers who depend upon Harris presses for superior execution of ideas.

HARRIS OFFSET PRESSES

· HARRIS · SEYBOLD · POTTER · COMPANY ·

PIONEER BUILDERS OF SUCCESSFUL OFFSET PRESSES

General Offices: 4510 East 71st St., Cleveland, Ohio • Harris Sales Offices: New York, 330 West 42nd St. • Chicago, 343 So. Dearborn St. • Dayton, 819 Washington St. • Atlanta, 120 Spring St., N.W. • San Francisco, 420 Market St. • Harris-Seybold-Potter (Canada) Ltd., Toronto, Montreal • Factories: Cleveland, Dayton